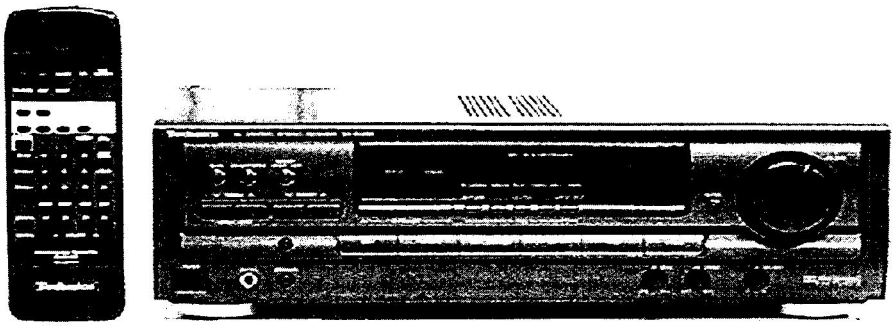
ORDER NO. MD9607053C2

Service Manual

AV Control Stereo Receiver

Receiver

SA-EX300



Colour

(K) . . . . . Black Type

Area

Suffix for Model No.	Area	Colour
(E)	Europe	(K)
(EB)	Great Britain	
(EG)	Germany and Italy	

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■ Specifications

■ FM Tuner Section

Frequency range	87.50 – 108.00MHz
Sensitivity	
S/N 30dB	1.5µV / 75Ω
S/N 25dB	1.3µV / 75Ω
S/N 20dB	1.2µV / 75Ω
Usable sensitivity	1.5µV / 75Ω
46dB stereo quieting sensitivity	22µV / 75Ω
Total harmonic distortion	
MONO	0.2%
STEREO	0.3%
S/N	
MONO	60dB (75dB, IHF)
STEREO	58dB (71dB, IHF)
Frequency response	20Hz – 15kHz, +1dB, –2dB
Alternate channel selectivity	65dB (±400kHz)
Capture ratio	1dB
Image rejection at 98MHz	40dB
IF rejection at 98MHz	70dB
Spurious response rejection at 98MHz	70dB
AM suppression	50dB
Stereo separation (1kHz)	40dB
Carrier leak	
19kHz	–30dB (–35dB, IHF)
38kHz	–50dB (–55dB, IHF)
Channel balance (250Hz – 6.3kHz)	±1.5dB
Limiting point	1.2µV
Bandwidth	
IF amplifier	180kHz
FM demodulator	1000kHz
Antenna terminal(s)	75Ω (unbalanced)

■ AM Tuner Section

Frequency range	
AM (.. EG) / MW (.. E,EB)	522 – 1611kHz (9kHz steps) 530 – 1620kHz (10kHz steps)
LW (.. E,EB)	144 – 288kHz
Sensitivity	
AM (.. EG) / MW (.. E,EB)	20µV, 330µV/m
LW (.. E,EB)	45µV
Selectivity	
AM (.. EG) / MW (.. E,EB)	55dB (at 999kHz)
LW (.. E,EB)	55dB (at 252kHz)
Image rejection	
AM (.. EG) / MW (.. E,EB)	40dB (at 999kHz)
LW (.. E,EB)	40dB (at 252kHz)
IF rejection at 1000 kHz	
AM (.. EG) / MW (.. E,EB)	55dB (at 999kHz)
LW (.. E,EB)	55dB (at 252kHz)

■ Video Section

Output voltage at 1 V input (unbalanced)	1 ± 0.1Vp-p
Maximum input voltage	1.5Vp-p
Input /Output impedance	75Ω (unbalanced)

■ Amplifier Section

Power output (at 240V)	
DIN 1kHz (T.H.D. 1%)	2 X 50W (4Ω)
40Hz – 20kHz continuous power output both channels driven	2 X 30W (8Ω)
Total harmonic distortion	
Rated power at 40Hz – 20kHz	0.5% (8 Ω)
Half power at 1kHz	0.03% (8 Ω)
Power output at the Dolby Pro Logic operation	
DIN 1kHz (T.H.D. 1%)	
Front	2 x 40 W (8Ω)
Center	40 W (8Ω)
Surround	40 W (8Ω)
Intermodulation distortion	
rated power at 60Hz : 7kHz 4:1,SMPTE	0.5% (8Ω)
Power bandwidth	
both channels driven, 3dB	10Hz 40kHz (8Ω)
Damping factor	30 (8Ω)
Load impedance	
Front	4 – 6Ω
Center	8 – 16Ω
Surround	4 – 16Ω
Frequency response	
PHONO	RIAA standard curve ±0.8dB
CD, VCR 1, TV/VCR 2, TAPE	10Hz – 40kHz, ±3dB

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⚠ WARNING

This service information is designed for experienced repair technicians only and is not designed for use by the general public. It does not contain warnings or cautions to advise non-technical individuals of potential dangers in attempting to service a product. Products powered by electricity should be serviced or repaired only by experienced professional technicians. Any attempt to service or repair the product or products dealt with in this service information by anyone else could result in serious injury or death.

Input sensitivity and impedance	
PHONO	3mV / 47kΩ
CD, VCR 1, TV/VCR 2, TAPE	200mV / 22kΩ
S/N at rated power (8Ω)	
PHONO	70dB (IHF, A: 80dB)
CD, VCR 1, TV/VCR 2, TAPE	75dB (IHF, A: 88dB)
Tone controls	
BASS	50Hz, ±10dB
TREBLE	20kHz, ±10dB
Output voltage	
VCR 1, OUT, TAPE REC (OUT)	200mV
Channel balance (250Hz – 6.3kHz)	±1dB
Channel separation	55dB
Headphones output level and impedance	430mV/330Ω

■ General

Power consumption	220W
Power supply	
For E, EB	AC 50 Hz, 230 – 240V
For EG	AC 50 Hz, 230V
Dimensions (W x H x D)	430 X 136 X 358mm
Weight	8.7kg

Notes :

1. Specifications are subject to change without notice.
   Weight and dimensions are approximate.
2. Total harmonic distortion is measured by the digital spectrum analyzer.

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■ Caution for AC Mains Lead

[For [EB] area.]

For your safety, please read the following text carefully.

This appliance is supplied with a moulded three pin mains plug for your safety and convenience. A 5-ampere fuse is fitted in this plug. Should the fuse need to be replaced please ensure that the replacement fuse has a rating of 5-ampere and that it is approved by ASTA or BSI to BS1362. Check for the ASTA mark ⟨ASTA⟩ or the BSI mark ⟨BSI⟩ on the body of the fuse.

CAUTION !
IF THE FITTED MOULDED PLUG IS UNSUITABLE FOR THE SOCKET OUTLET IN YOUR HOME THEN THE FUSE SHOULD BE REMOVED AND THE PLUG CUT OFF AND DISPOSED OFF SAFELY.
THERE IS A DANGER OF SEVERE ELECTRICAL SHOCK IF THE CUT OFF PLUG IS INSERTED INTO ANY 13-AMPERE SOCKET.

If the plug contains a removable fuse cover you must ensure that it is refitted when the fuse is replaced.
If you lose the fuse cover, the plug must not be used until a replacement cover is obtained. A replacement fuse cover can be purchased from your local dealer.

If a new plug is to be fitted, please observe the wiring code as shown below.
If in any doubt please consult a qualified electrician.

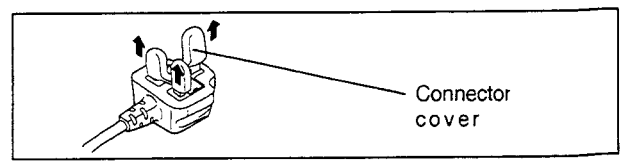
IMPORTANT
The wires in this lead are coloured in accordance with the following code:

Blue: Neutral
Brown: Live

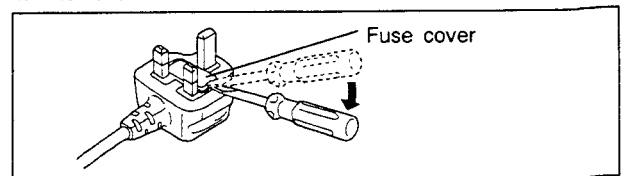
As the colours of the wires in the mains lead of this appliance may not correspond with the coloured markings identifying the terminals in your plug, proceed as follows:
The wire which is coloured BLUE must be connected to the terminal in the plug which is marked with the letter N or coloured BLACK.
The wire which is coloured BROWN must be connected to the terminal in the plug which is marked with the letter L or coloured RED.

Under no circumstances should either or these wires be connetced to the earth terminal of the three pin plug, marked with the letter E or the Earth symbol ⏚.

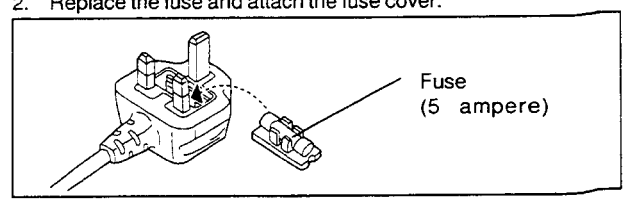
Before use
Remove the connector cover as follows.



How to replace the fuse
1. Remove the fuse cover with a screwdriver.



2. Replace the fuse and attach the fuse cover.



■ Before Repair and Adjustment

Disconnect AC power, discharge both Power Supply Capacitors (C703 and C704) through a 10Ω , 5W resistor to ground.
DO NOT SHORT-CIRCUIT DIRECTLY (with a screwdriver blade, for instance), as this may destroy solid state devices.
After repairs are completed, restore power gradually using a variac, to avoid overcurrent.
For E,EB : Current consumption at 240V, 50 Hz in NO SIGNAL mode should be 120 ~ 350 mA.
For EG : Current consumption at 230V, 50 Hz in NO SIGNAL mode should be 130 ~ 380 mA.

■ Protection Circuitry

The protection circuitry may have operated if either of the following conditions are noticed:

- No sound is heard when the power is turned on.
- Sound stops during a performance.

The function of this circuitry is to prevent circuitry damage if, for example, the positive and negative speaker connection wires are "shorted", or if speaker systems with an impedance less than the indicated rated impedance of the amplifier are used.

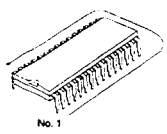
If this occurs, follow the procedure outlines below:

1. Turn off the power.
2. Determine the cause of the problem and correct it.
3. Turn on the power once again after one minute.

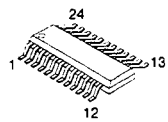
Note:
When the protection circuitry functions, the unit will not operate unless the power is first turned off and then on again.

■ Terminal Guide of ICs, Transistors and Diodes

LA2785 (42 PIN)



LA1832A
LC7218



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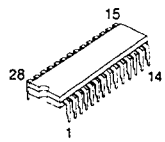
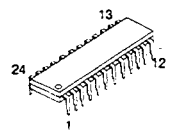


LV1010N



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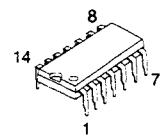
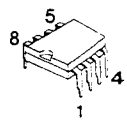
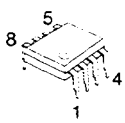


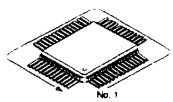
AN6558-F
UPC4570C



M5218AP



UPD78043D047
(80 PIN)



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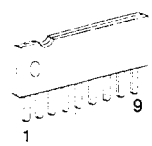

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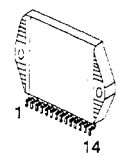

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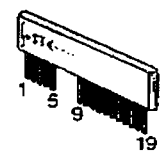
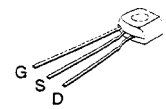
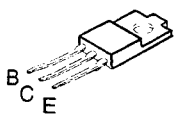


2SK544F-AC



2SB1548PQAU
2SD2374PQAU



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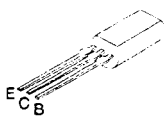
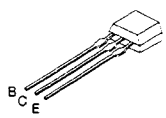
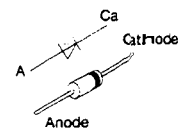


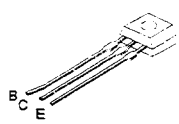


2SA933SSTA
RVTDTC114YST

2SC3311ARTA

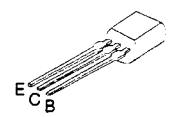
1N5402BM21





2SC2787LTA
2SD1915FTA
UN411FTA
UN421FTA

2SA1309ARTA
2SC2785FETA
2SC2786MTA
2SC2787FL1TA



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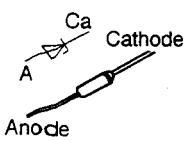
2SD592AQRSTA



MTZJ10CTA
MTZJ15CTA
MTZJ27DTA
MTZJ3R9ATA
MTZJ4R7BTA
MTZJ5R1BTA

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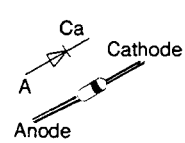
MTZJ6R2BTA
MTZJ6R8BTA
MTZJ7R5CTA
MTZJ24DTA



1SR35200TB
1SS291TA
RVD1SS133TA
MA165TA

■ Operation Checks and Main Component Replacement Procedures

"ATTENTION SERVICER" Some chassis components may have shape edges.
Be careful when disassembling and servicing.

1. This section describes procedures for checking the operation of the major printed circuit boards and replacing the main components.
2. For reassembly after operation checks or replacement, reverse the respective procedures. Special reassembly procedures are described only when required.
3. Select items from the following index when checks or replacement are required.

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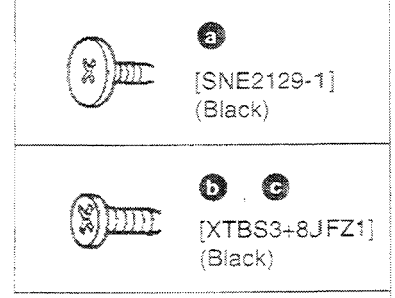
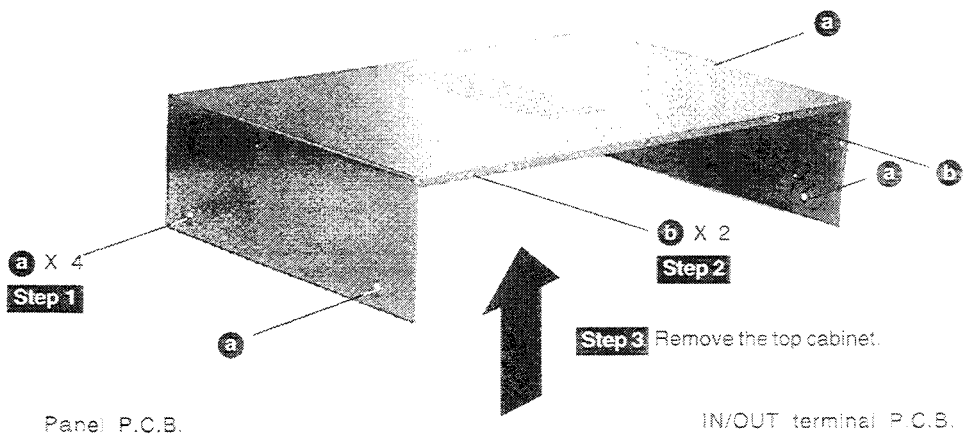
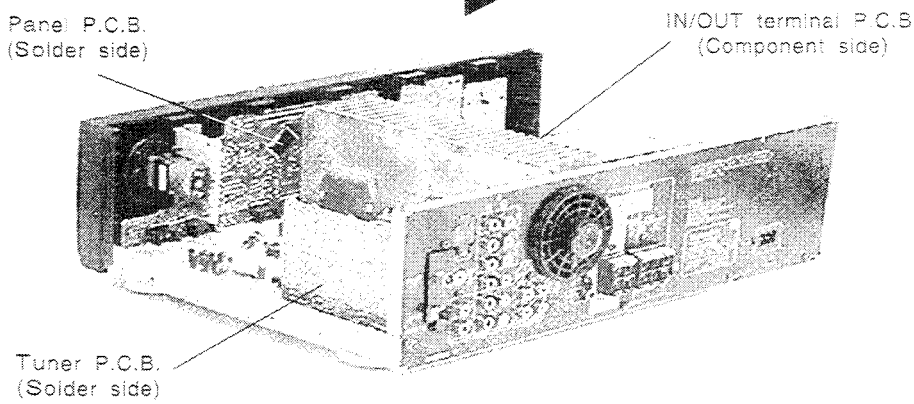
	page
• Checking Procedure for Major P.C.B.	4 ~ 5
• Main Component Replacement Procedures	6 ~ 7

■ Checking Procedure for Major P.C.B.

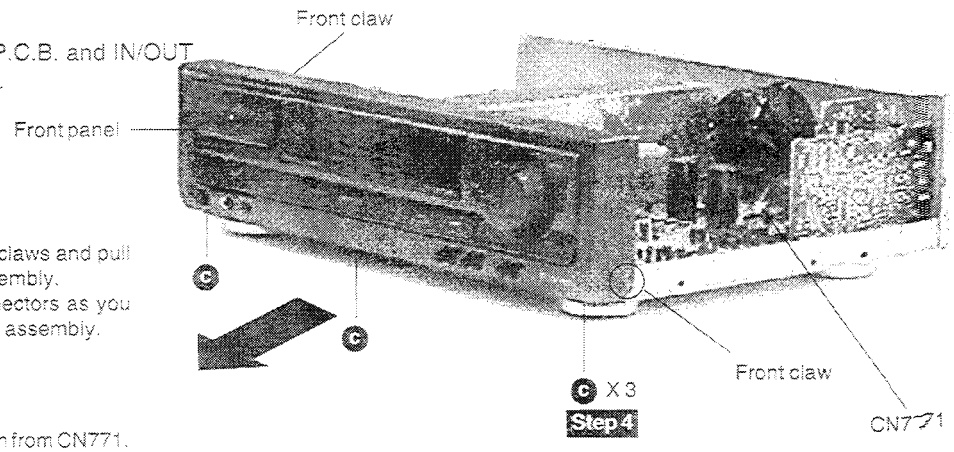




Step 3 Remove the top cabinet.



- Check the Panel P.C.B., Tuner P.C.B. and IN/OUT terminal P.C.B. as shown above.

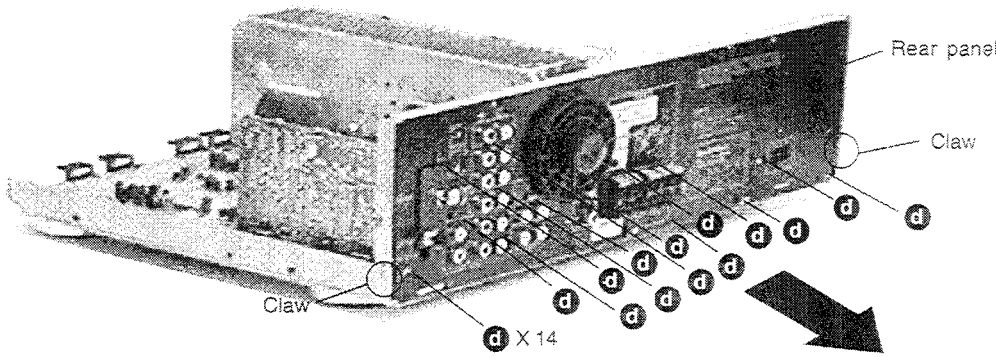


Step 5

Release the two front claws and pull out the front panel assembly.
Take note of the connectors as you remove the front panel assembly.
(CN901 to CN905)

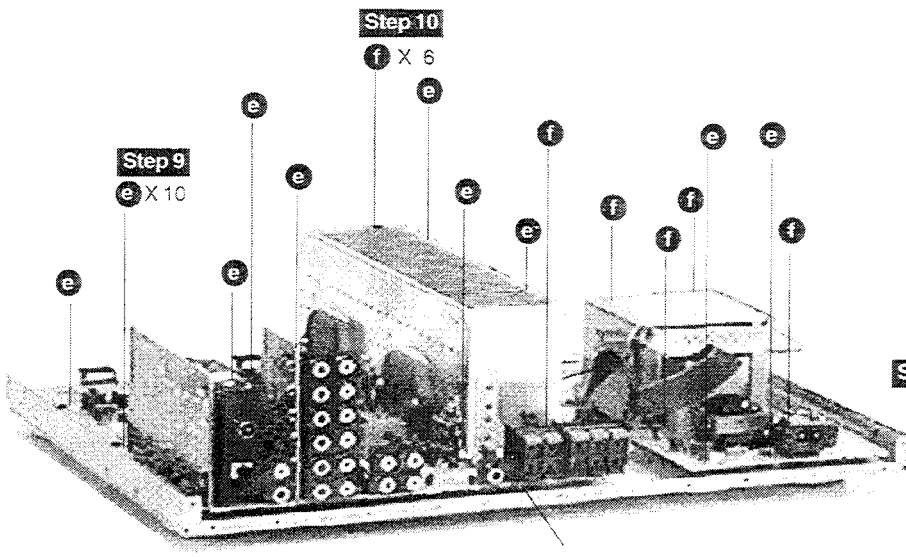
Step 6

Remove the connection from CN771.



Step 7

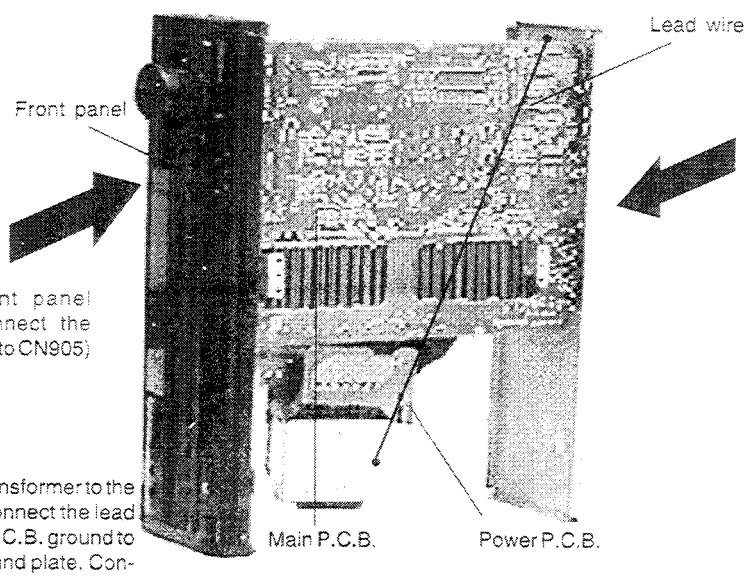
Step 8 Release the claws and then remove the rear panel.



Step 11 Remove the Main P.C.B.

Step 15

Check the Main P.C.B. and the Power P.C.B. as shown on the left.



Step 12

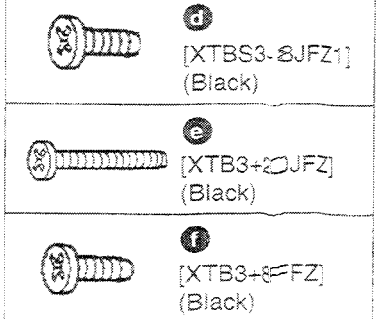
Install the rear panel temporarily on the Main P.C.B. again.

Step 13

Fix back the front panel assembly and connect the connectors. (CN901 to CN905)

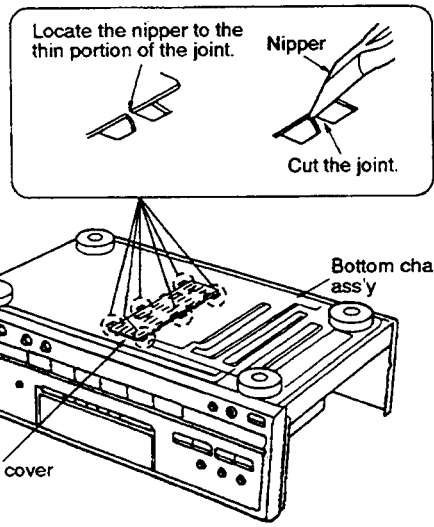
Step 14

Connect back the transformer to the power P.C.B. and connect the lead wire from the main P.C.B. ground to the transformer ground plate. Connect back the connection for CN771.

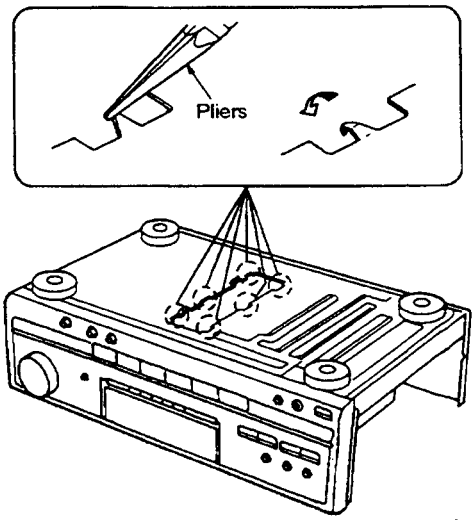


■ Main Component Replacement Procedures

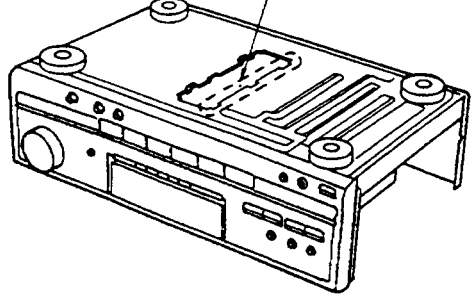
1. Replacement of the Power IC and Regulator Transistor



1. Cut the joints(6 portions) between bottom cover and bottom chassis ass'y with nipper.



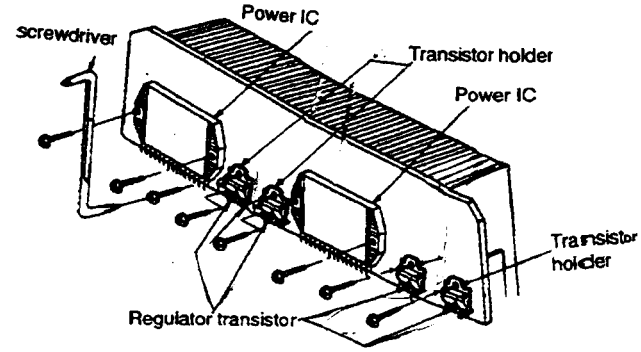
2. After cutting the joints(6 portions), bend the portions of the bottom chassis ass'y in the direction of arrow with pliers.



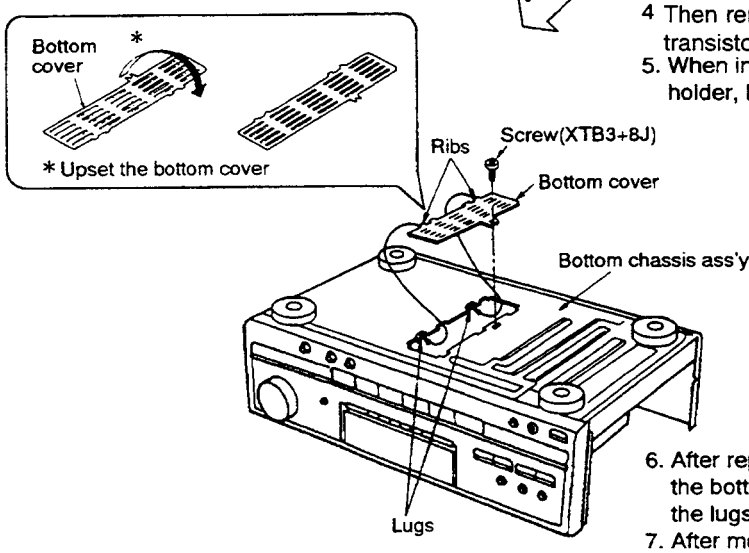
3. When replacing the power IC or regulator transistor, unsolder the terminals of power IC or regulator transistor on the soldered surface.

CAUTION

- After replacing the power IC or regulator transistor, apply a sufficient quantity of compound grease (RFKX0002) between the heat sink and the power IC or regulator transistor. (Radiation of power IC & transistor)
- Tighten enough the screws after replacing the power IC or regulator transistor. Otherwise, the heat radiation works little.



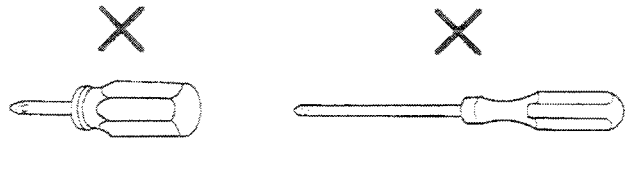
4 Then remove the screws fixed to the power IC or transistor holder.
5. When installing or removing the power IC or transistor holder, be sure to use an offset screwdriver.



6. After replacing the power IC or regulator transistor, upset the bottom cover and align the ribs of the bottom cover to the lugs on the bottom chassis ass'y.
7. After mounting the bottom cover on the bottom chassis ass'y, fix it with a screw(XTB3+8J).

CAUTION:

1. A long straight screwdriver cannot be used for removal or mounting since its long grip interferes with the neighboring P.C.B.(See Fig.1)
2. A short straight screwdriver may be used for removal, but cannot be used for mounting because the limited space in the unit will not allow sufficient tightening torque. (See Fig.2)



A short straight screwdriver　　A long straight screwdriver

Fig.2

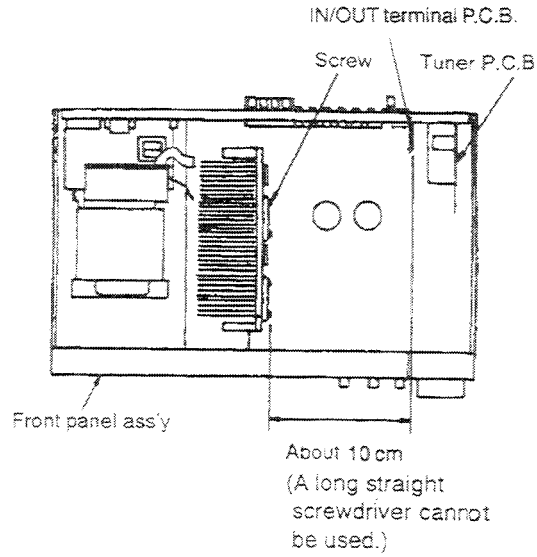
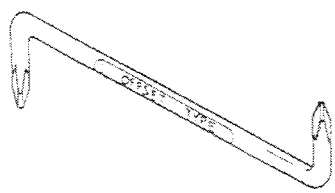


Fig.1

3. Insufficient tightening will cause poor heat dissipation from the power IC and regulator transistor and, in the worst case, may lead their thermal breakdown. (See Fig.2)

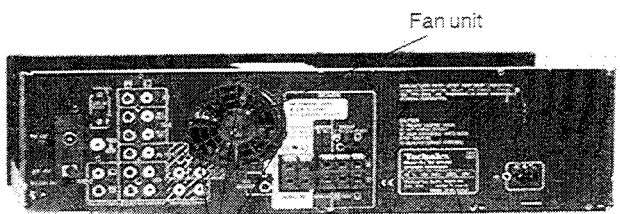
——OFFSET SCREWDRIVER——

• The PROTO offset screwdriver No.34 - ¼ is recommended for use in the application above.



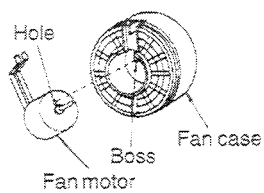
No.	⊕	⊢ L ⊣
34¼	1 & 2	4¾″

2. Replacement of the fan motor

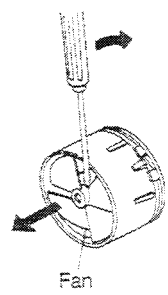


Step 1
Release the 3 claws.

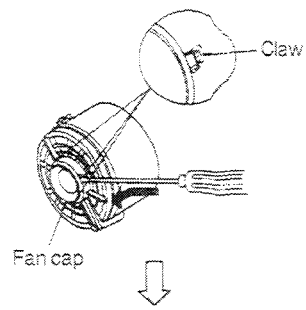
NOTE
When replacing the fan motor, align the boss of the fan case with the hole of the fan motor.



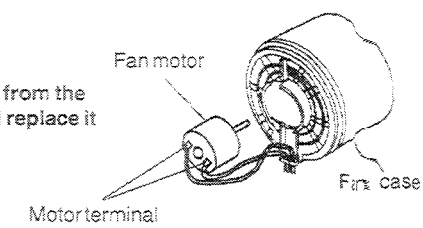
Step 2
Put a screwdriver at the root of the fan and remove it.



Step 3
Remove the fan cap.



Step 4
Desolder the wires from the motor terminal and replace it with a new one.

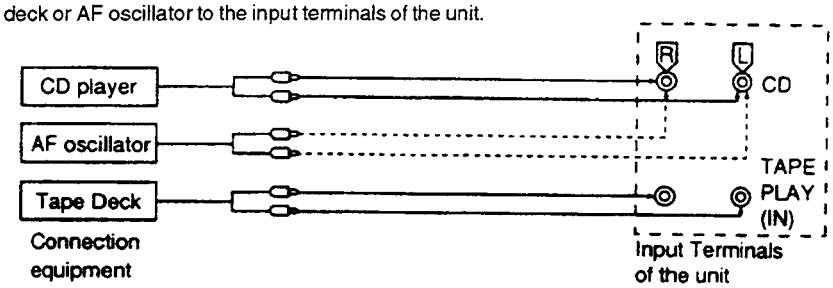


■ Troubleshooting

This unit has test points on each circuit board block for use in troubleshooting.

CONNECTION

Connect either a CD player, tape deck or AF oscillator to the input terminals of the unit.



REQUIRED ITEMS

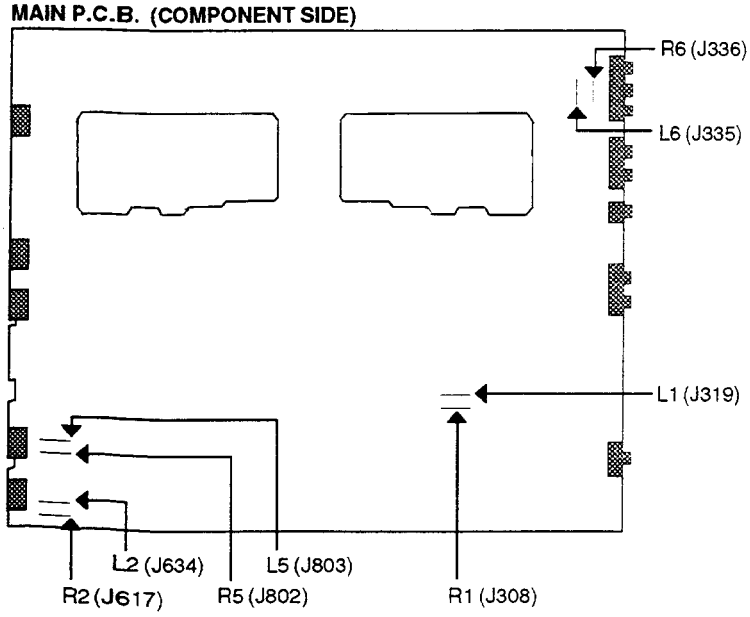
1. Testing with a CD player ——— Test deck (SZZP1054C / first program, 1kHz, 0dB)
2. Testing with a tape deck ——— Test tape (QZZCLA / 315Hz, 0dB)
3. Testing with a AF oscillator ——— Set the output at 500Hz, 200mV
4. Oscilloscope (min. 10MHz) ---------- To measure the output waveform at the test points.

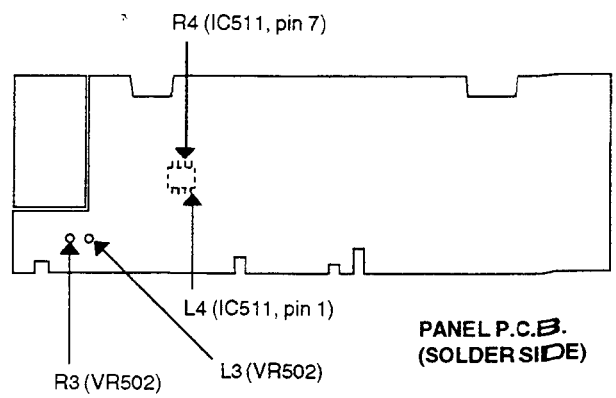
TEST PROCEDURE FOR AMPLIFIER CIRCUIT

When the CD player AF oscillator is connected:	When the tape deck is connected:
Power on the unit. Set the input selector button of the unit to the "CD" position. Set the Speaker ON/OFF button of the unit to the SPEAKERS "ON" position.	Power on the unit. Set the input selector button of the unit to the "TAPE MONITOR" position. Set the Speaker ON/OFF button of the unit to the SPEAKERS "ON" position.
Run the CD player (SZZP1054C / first program 1kHz, 0dB) or Run the AF oscillator (Oscillator output at 500Hz, 200mV)	Run the tape deck (QZZCLA 315Hz, 0dB)
Using the Oscilloscope, check the output waveforms at the test points on the circuit boards of the unit in the following order: (L1,R1) → (L2,R2) → (L3,R3) → (L4,R4) → (L5,R5) → (L6,R6). Refer to page 9.	Note: Connect the ⊕ probe of the oscilloscope to each test point and the ⊖ probe to chassis ground.

TEST POINTS POSITIONS OF AMPLIFIER CIRCUIT

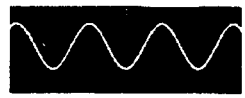
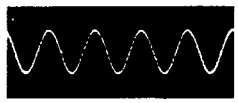
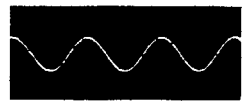
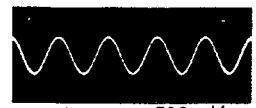
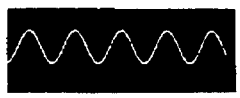
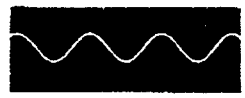
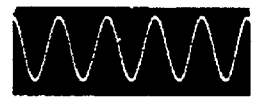
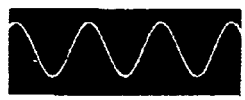
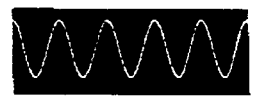
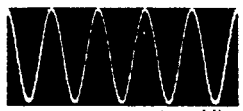
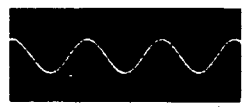
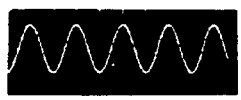
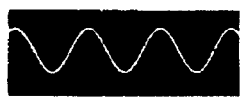
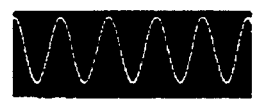
MAIN P.C.B. (COMPONENT SIDE)





PANEL P.C.B. (SOLDER SIDE)

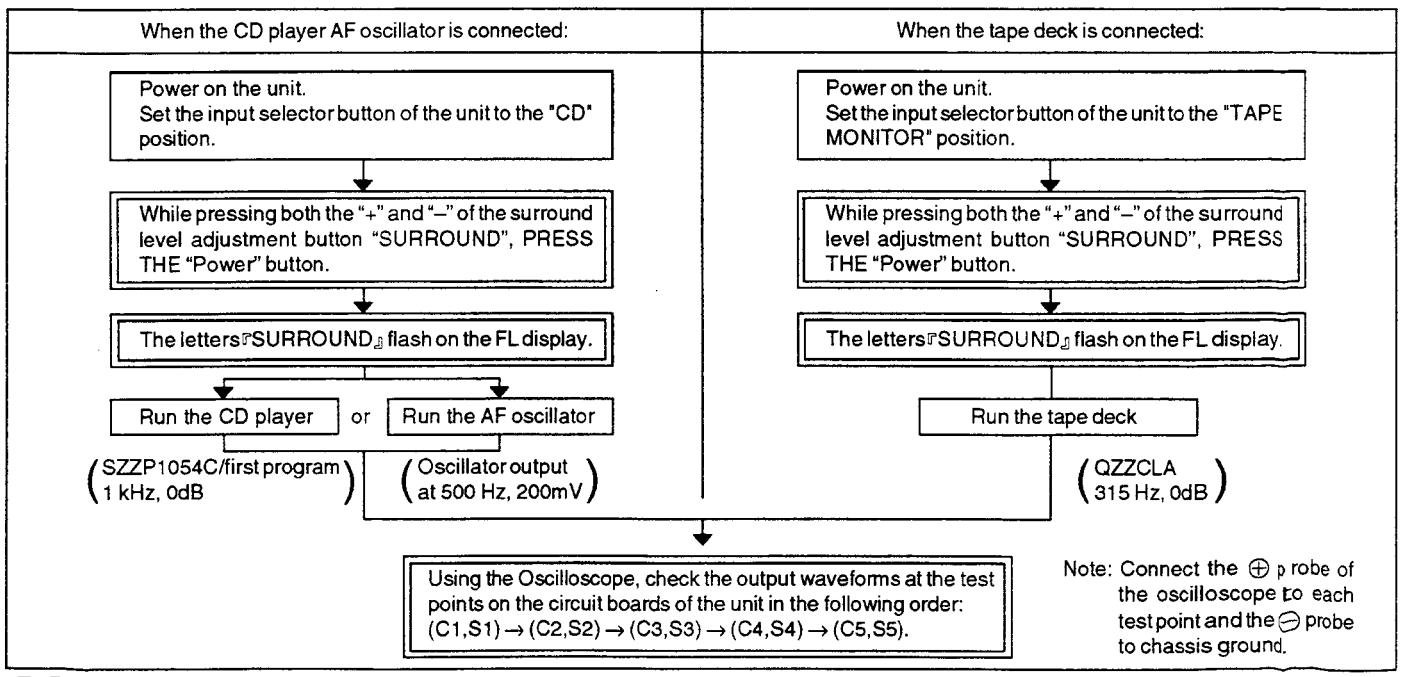
NORMAL WAVEFORMS OF AMPLIFIER CIRCUIT AND LIKELY FAULTY BLOCKS

TP	CD player	Tape deck	AF oscillator	Likely faulty block if the normal waveform shown at the left is not present.
L1/R1	0.5 msec 2V	 1 msec 500 mV	1 msec 500 mV	Input selector block IC402 & area
L2/R2	 0.5 msec 200 mV	 1 msec 500 mV	 1 msec 500 mV	Dolby pro logic block IC1001, IC1002 & area
L3/R3	 0.5 msec 50 mV	 1 msec 100 mV	 1 msec 50 mV	Master volume block VR501 & area
L4/R4	0.5 msec 500 mV	 1 msec 500 mV	 1 msec 1 V	Tone control block IC511 & area
L5/R5	 0.5 msec 100 mV*	 1 msec 500 mV	1 msec 500 mV	Power limiter block Q505 and Q506 & area
L6/R6	 0.5 msec 5 V	 1 msec 500 mV*	 1 msec 1V*	Main amplifier block IC601 & area

Measurement conditions. Volume control (VR501), Treble control (VR512) and Bass control (VR511) positions : ⏲
*Volume control position (VR501) for these test : ⏲

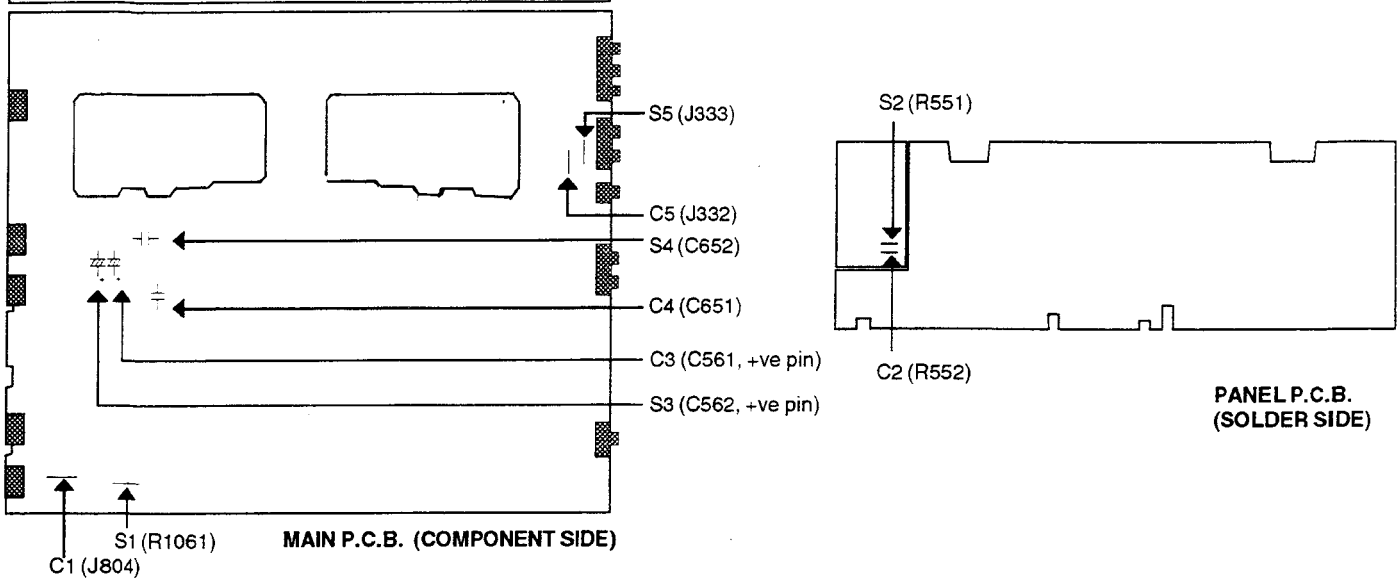
CHECKING PROCEDURE FOR SURROUND CIRCUIT

Outputting surround signals normally requires that opposite phase signals be applied to both the left and right channels. However, this unit incorporates a service mode, allowing the surround circuit to be tested using in-phase signals.

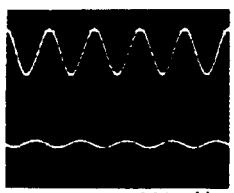
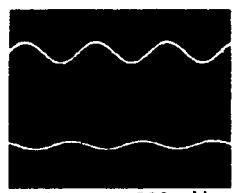
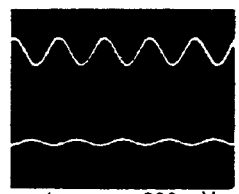
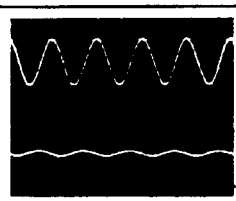
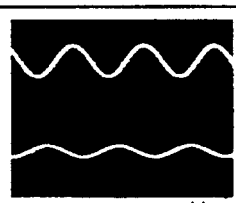
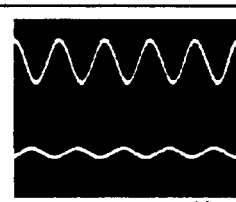
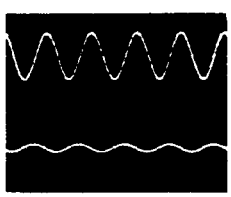
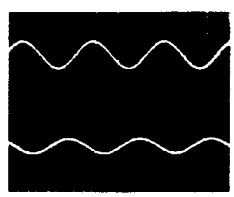
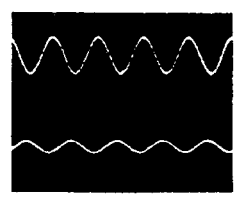
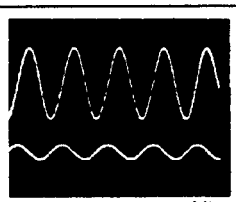
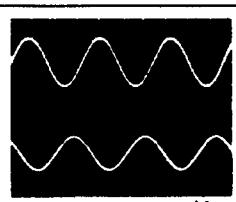
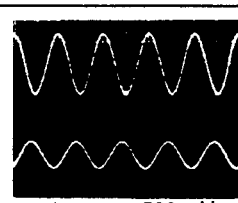
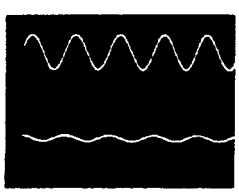
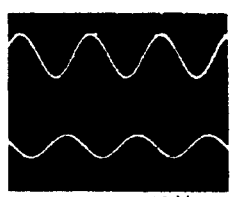
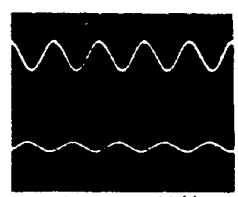

When the CD player AF oscillator is connected:
When the tape deck is connected:
Power on the unit.
Set the input selector button of the unit to the "CD" position.
Power on the unit.
Set the input selector button of the unit to the "TAPE MONITOR" position.
While pressing both the "+" and "–" of the surround level adjustment button "SURROUND", PRESS THE "Power" button.
While pressing both the "+" and "–" of the surround level adjustment button "SURROUND", PRESS THE "Power" button.
The letters "SURROUND" flash on the FL display.
The letters "SURROUND" flash on the FL display.
Run the CD player
or
Run the AF oscillator
Run the tape deck
(SZZP1054C/first program 1 kHz, 0dB)
(Oscillator output at 500 Hz, 200mV)
(QZZCLA 315 Hz, 0dB)
Using the Oscilloscope, check the output waveforms at the test points on the circuit boards of the unit in the following order: (C1,S1) → (C2,S2) → (C3,S3) → (C4,S4) → (C5,S5).
Note: Connect the ⊕ probe of the oscilloscope to each test point and the ⊖ probe to chassis ground.

• To Exit the service mode, power off the unit.

TEST POINTS POSITIONS OF SURROUND CIRCUIT

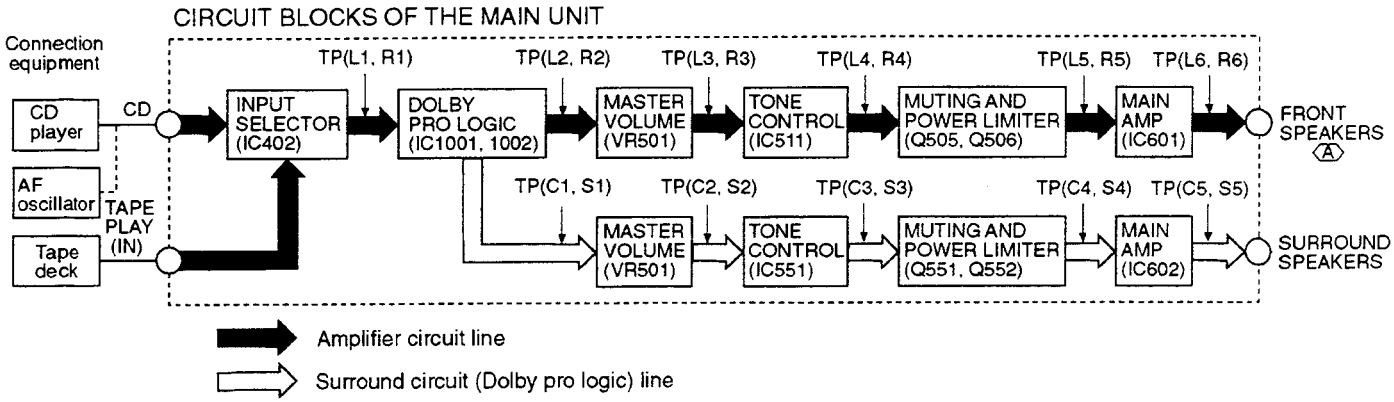


NORMAL WAVEFORMS OF SURROUND CIRCUIT AND LIKELY FAULTY BLOCKS

TP	CD player	Tape deck	AF oscillator	Likely faulty block if the normal waveform shown at the left is not present.
C1/S1	 0.5 msec 500 mV	 1 msec 200 mV	 1 msec 200 mV	Dolby pro logic block IC1001, IC1002 & area
C2/S2	 0.5 msec 100 mV	 1 msec 20 mV	 1 msec 20 mV	Master volume block VR501 & area
C3/S3	 0.5 msec 2 V	 1 msec 500 mV	 1 msec 500 mV	Tone control block IC551 & area
C4/S4	 0.5 msec 200 mV*	 1 msec 500 mV	 1 msec 500 mV	Power limiter block through Q551, Q552 & area
C5/S5	 0.5 msec 100 mV*	 1 msec 10 V	 1 msec 20 V	Main amplifier block IC602 & area

Measurement conditions. Volume control (VR501), Treble control (VR512) and Bass control (VR511) positions : ↻
*Volume control position (VR501) for these test : ↺

CIRCUIT BLOCKS



■ OVERLOAD DETECTION FUNCTION

The HIC protection circuit functions if any cord at a speaker terminal is short-circuited or if the unit overheats because of improper operation. At the same time, 『OVERLOAD』 scrolls across the FL display.
In this state, all keys remain inoperative; if any key is pressed, 『SWITCH OFF POWER』 scrolls across the FL display.
If an overload occurs, immediately power off the unit and check the speaker connections and venting holes. After fixing any faults, power on the unit again and check for proper operation.
If no detects are found, or if the unit remains overloaded after it is power on again, check the circuit for faults.

■ Terminal Function of ICs

• IC901 (UPD78043D047) System Microprocessor

Pin No.	Mark	I/O	Function
1~7	D4~D10	O	Digit signal of FL display
8	VDD	I	Power supply terminal
9	SUR/OSD_CK	–	Not used
10	SUR/OSD_DT	–	Not used
11	VIDEO_DET	I	RDS detect terminal
12	SUR_CE	–	Not used
13	VOL_UP	O	Rotate control terminal of
14	VOL_DWN	O	volume motor
15	LOUDNESS	–	Not used
16	FM_STEREO	I	Stereo signal detect terminal
17	RESET	I	Reset detect terminal
18	SD	I	Received signal detect terminal
19	OSD_ST	–	Not used
20	GND	–	GND terminal
21	VIDEO_B	–	Not used
22	VIDEO_A	–	Not used
23	IF_DATA	I	Serial data signal
24	THERMAL	—	Not used
25~28	KEY1~KEY4	I	Key matrix detect terminal
29	AVDD	I	Power supply terminal
30	AVREF	I	Power supply terminal
31	OVERLOAD	I	Over load detect terminal
32	XT2	–	Not used
33	GND	–	GND terminal
34	XIN	I	Crystal oscillator terminal
35	XOUT	O	(4MHz)

Pin No.	Mark	I/O	Function
36~39	SFC1~SFC4	–	Not used
40	RDS DT	I	RDS data signal
41	TNR_CE	O	Chip enable signal
42	SEL/TNR_DT	O	Serial data signal
43	SEL/TNR_CK	O	Serial clock signal
44	RDS ST	O	RDS start signal
45	RDS CLK	O	RDS clock signal
46	HOLD	I	Hold signal input terminal
47	REMOTE	I	Remote control terminal
48	GND	–	Not used
49	SEL_ST	O	Level shift control terminal
50	HELP_LED	–	Not used
51	STANDBY_LED	–	Not used
52	VDD	I	Power supply terminal
53	REC_MUTE	–	Not used
54	S/C_SP	–	Not used
55	SP_B	–	Not used
56	SP_A	O	Speaker select control terminal
57	POWER_RLY	O	Relay control terminal
58	AF_MUTE	O	Muting control terminal
59	LIMITTER	–	Not used
60	INIT_IN	–	Not used, connect to resistor
61~70	S16~S7	O	Segment signal of FL display
71	VLOAD	I	Power supply terminal
72~77	S6~S1	O	Segment signal of FL display
78~80	D1~D3	O	Digit signal of FL display

■ Schematic Diagram

(All schematic diagrams may be modified at any time with the development of new technology)

Note :

< for Main circuit and In/Out Terminal circuit > (Page 13 ~ 17)

< for Tuner circuit > (Page 18 ~ 21)

< for Panel circuit, Power Supply circuit, Headphone Jack circuit, Operation circuit, Transformer circuit and Volume circuit > (Page 22 ~ 25)

- **S946** : Power switch
- **S947** : Phono select switch
- **S948** : Muting switch
- **S950** : FM Auto / Mono switch
- **S951** : Band select switch
- **S952** : Tuning decrease switch
- **S953** : Tuning increase switch
- **S954** : Memory manual/auto switch
- **S956** : Preset decrease switch
- **S957** : Preset increase switch
- **S960** : Tuner select switch
- **S961** : CD select switch
- **S962** : Tape select switch
- **S963** : TV / VCR2 select switch
- **S964** : VCR1 select switch
- **S970** : Search select switch
- **S971** : Enhanced other network select switch
- **S972** : Program type increase switch
- **S973** : Program type decrease switch
- **S974** : Display mode select switch
- **S980** : Speakers on/off switch
- **S983** : Surround select switch
- **S974** : 3 Stereo select switch
- **S980** : Center mode select switch
- **VR501-1 ~ VR501-4** : Volume control
- **VR502** : Balance control
- **VR511-1 ~ VR511-2** : Bass control
- **VR512-1 ~ VR512-2** : Treble control

- **Signal line**

: +B line
: Main signal line
: FM signal line
: AM signal line
: AM OSC signal line
: FM OSC signal line

•The voltage value and waveforms are the reference voltage of this unit measured by DC electronic voltmeter (high impedance) and oscilloscope on the basis of chassis.
Accordingly, there may arise some error in voltage values and waveforms depending upon the internal impedance of the tester or the measuring unit.

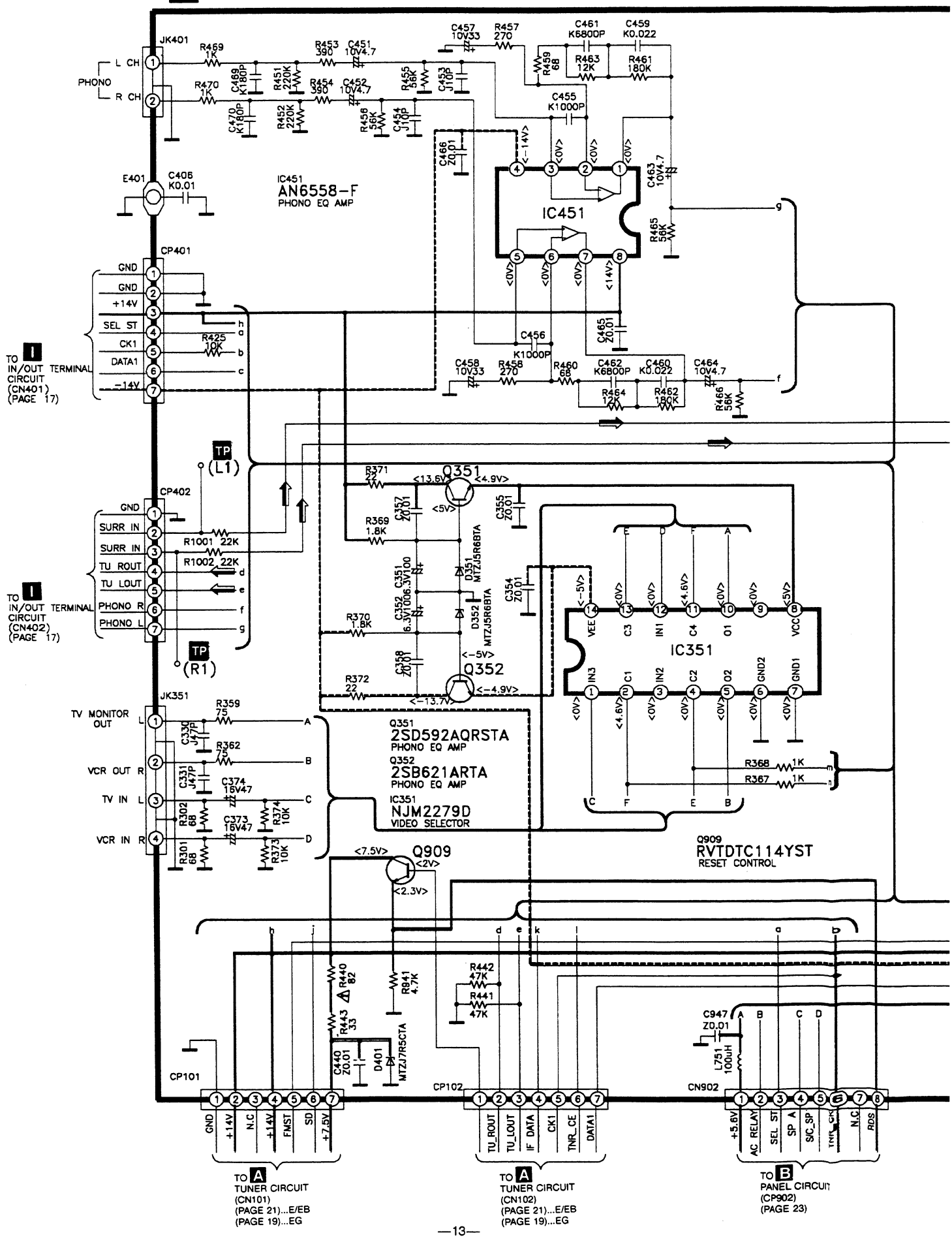
( ) ..... AM < > ..... FM

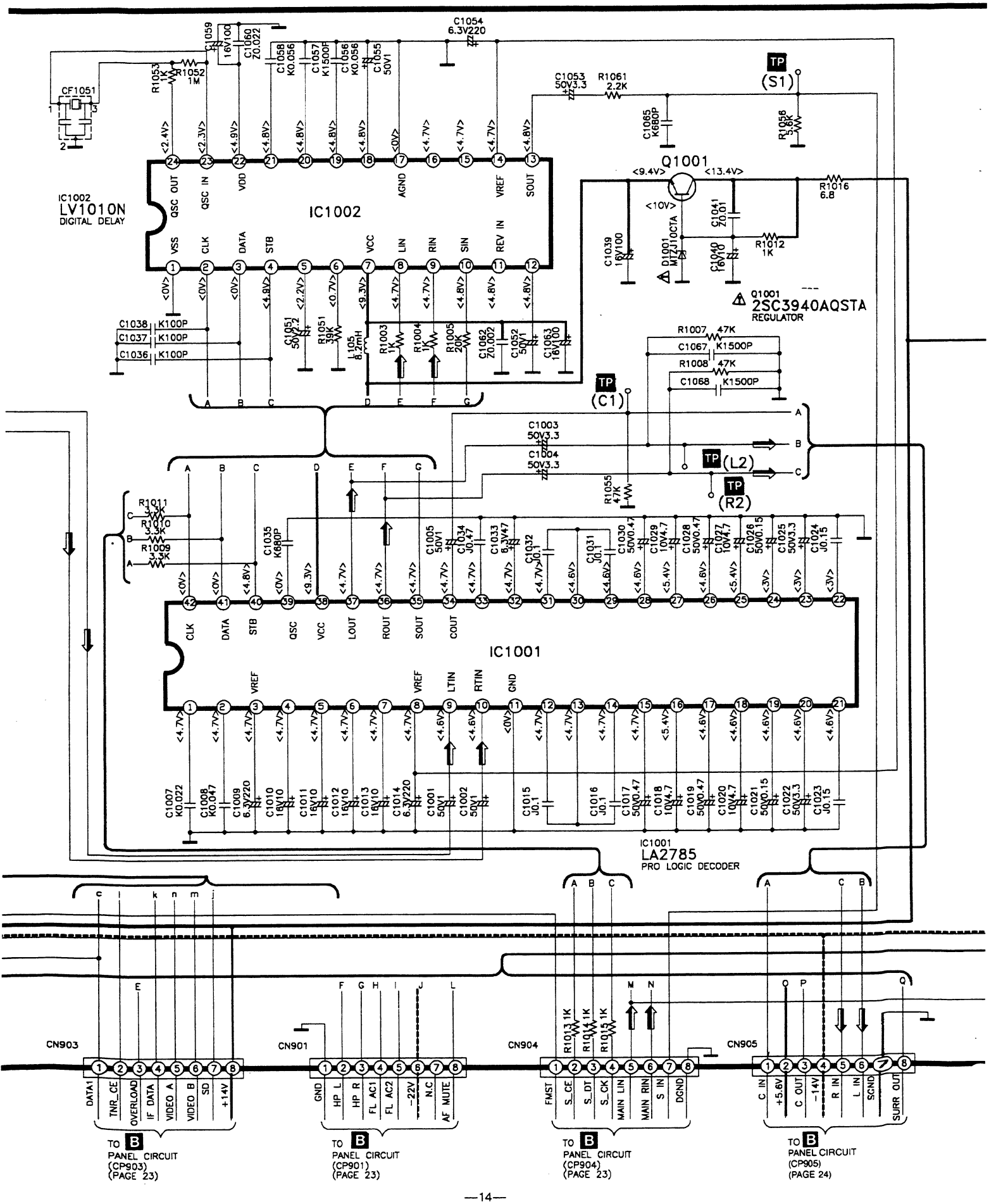
•

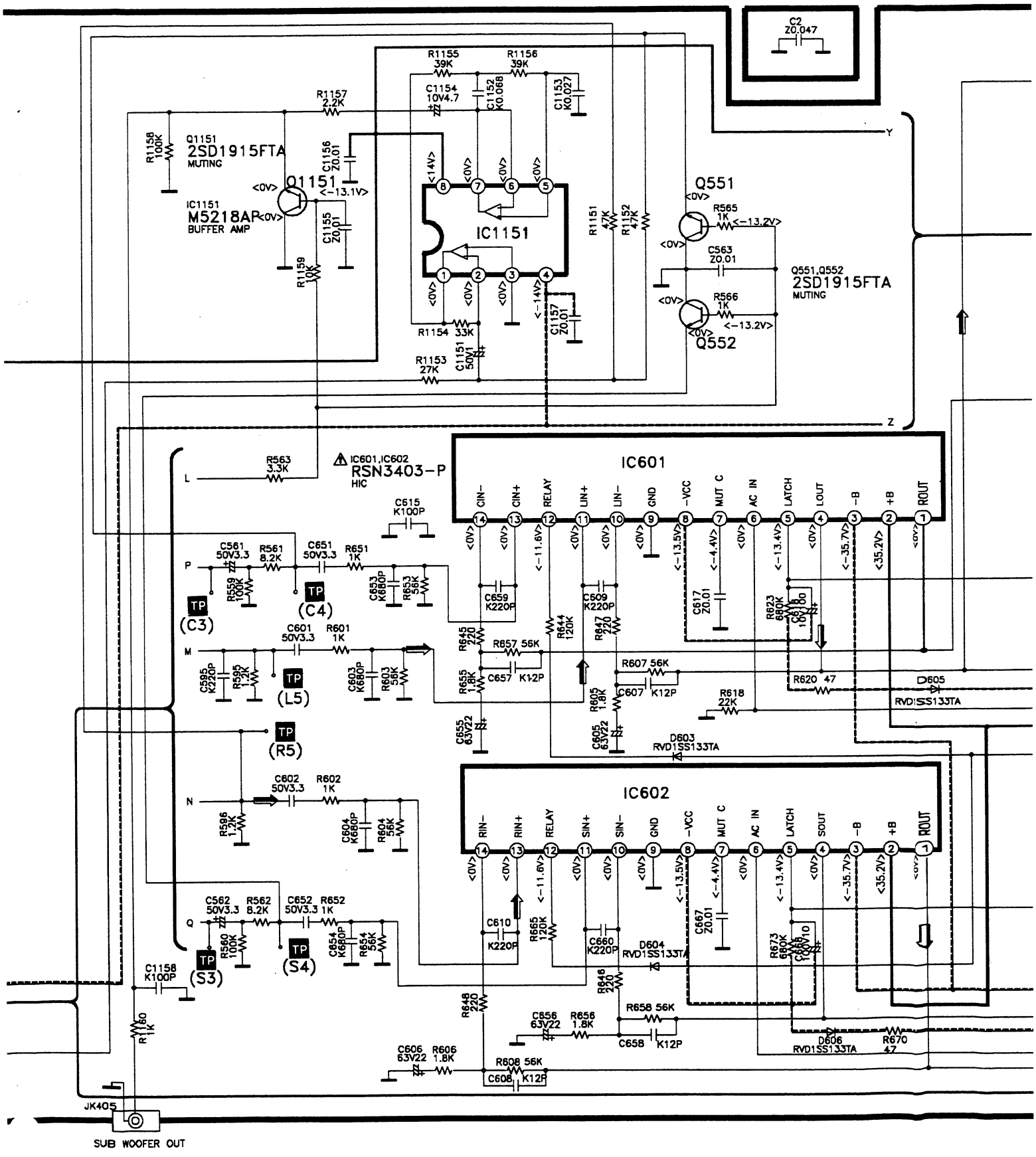
•Importance safety notice:
Components identified by ⚠ mark have special characteristics important for safety. Furthermore, special parts which have purposes of fire-retardant (resistors), high-quality sound (capacitors), low-noise (resistors), etc. are used. When replacing any of components, be sure to use only manufacturer's specified parts shown in the parts list.

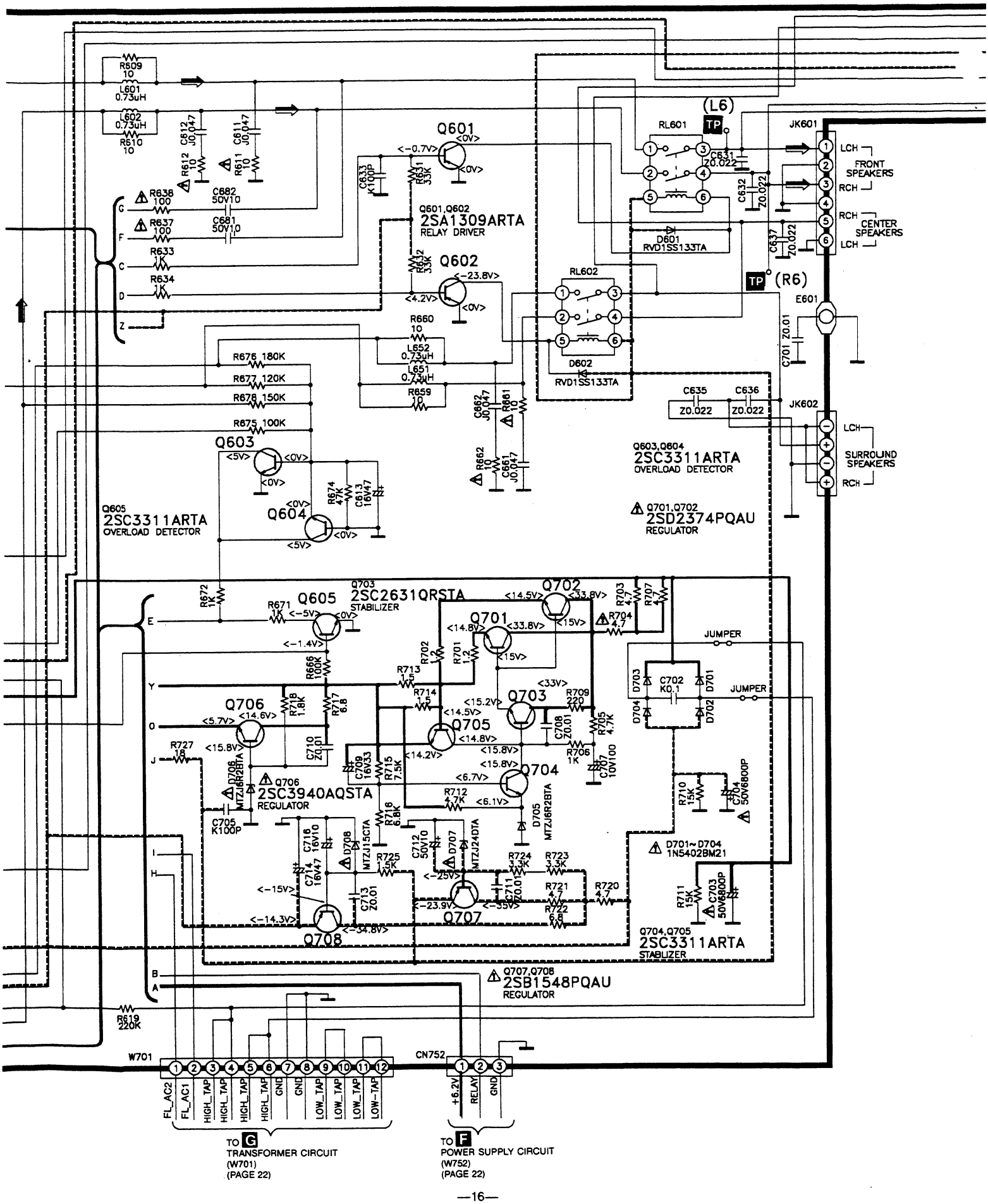
Caution !
IC, LSI and VLSI are sensitive to static electricity.
Secondary trouble can be prevented by taking care during repair.
•Cover the parts boxes made of plastics with aluminium foil.
•Ground the soldering iron.
•Do not touch the pins of IC, LSI or VLSI with fingers directly.
•Put a conductive mat on the work table.

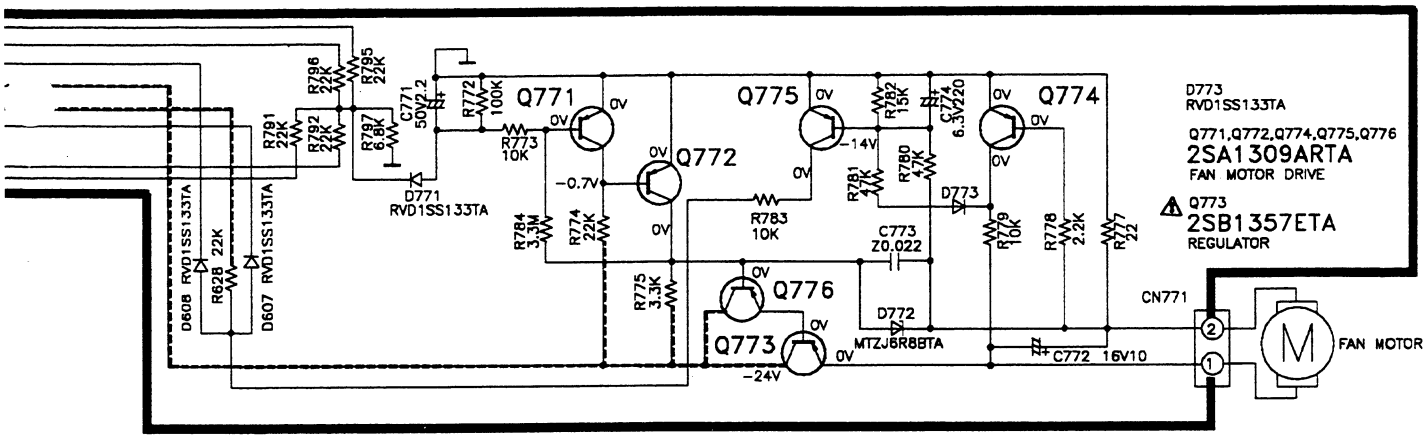
E MAIN CIRCUIT



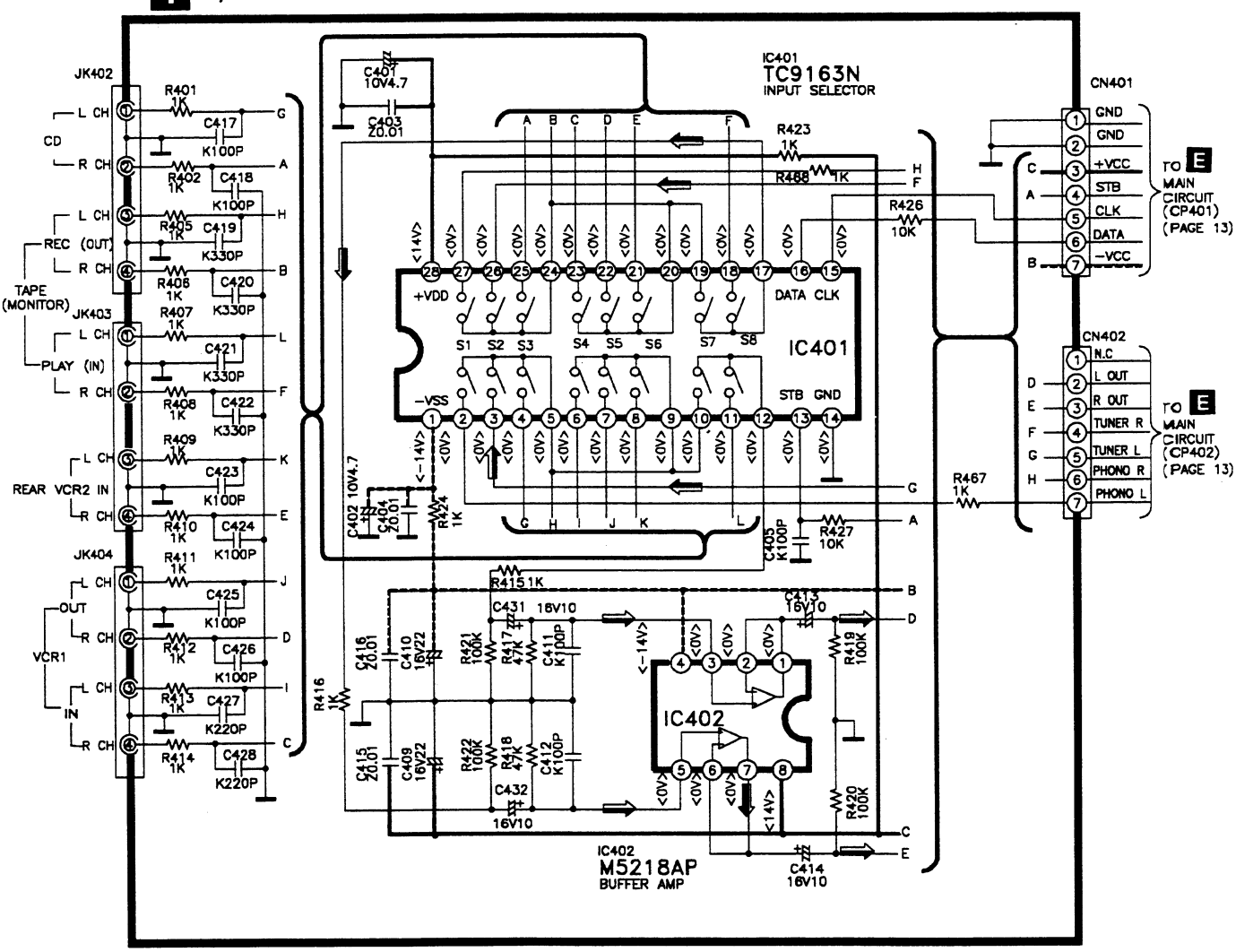

IC1002
LV1010N
DIGITAL DELAY
IC1002
IC1001
LA2785
PRO LOGIC DECODER
Q1001
2SC3940AQSTA
REGULATOR
CN903
CN901
CN904
CN905
TO B PANEL CIRCUIT (CP903) (PAGE 23)
TO B PANEL CIRCUIT (CP901) (PAGE 23)
TO B PANEL CIRCUIT (CP904) (PAGE 23)
TO B PANEL CIRCUIT (CP905) (PAGE 24)


C2
Z0.047
R1155 39K
R1156 39K
C1154 10V4.7
C1152 K0.068
C1153 K0.027
R1157 2.2K
R1158 100K
Q1151
2SD1915FTA
MUTING
C1156 Z0.01
Q1151
<-13.1V>
IC1151
M5218AP
BUFFER AMP
C1155 Z0.01
R1159 10K
IC1151
R1154 33K
R1153 27K
C1151 50V1
C1157 Z0.01
R1151 47K
R1152 47K
Q551
R565 1K
<-13.2V>
C563 Z0.01
Q551,Q552
2SD1915FTA
MUTING
R566 1K
<-13.2V>
Q552
Y
Z
R563 3.3K
IC601,IC602
RSN3403-P
HIC
IC601
CIN- CIN+ RELAY LIN+ LIN- GND -VCC MUT C AC IN LATCH LOUT -B +B ROUT
C615 K100P
C561 50V3.3 R561 8.2K
C651 50V3.3 R651 1K
P
TP (C3)
TP (C4)
C659 K220P
C609 K220P
C617 Z0.01
R623 680K
C618 16V100
R644 120K
R847 220
R645 220
R857 56K
C601 50V3.3 R601 1K
M
TP (L5)
C657 K12P
R607 56K
C607 K12P
R620 47
D605
RVD1SS133TA
R618 22K
R655 1.8K
R605 1.8K
C655 63V22
C605 63V22
D603
RVD1SS133TA
TP (R5)
C602 50V3.3 R602 1K
N
IC602
RIN- RIN+ RELAY SIN+ SIN- GND -VCC MUT C AC IN LATCH SOUT -B +B ROUT
C562 50V3.3 R562 8.2K
C652 50V3.3 R652 1K
Q
TP (S3)
TP (S4)
C610 K220P
R665 120K
C660 K220P
D604
RVD1SS133TA
C667 Z0.01
R673 680K
C668 16V10
C1158 K100P
R846 220
R648 220
C656 63V22 R656 1.8K
R658 56K
C658 K12P
D606
RVD1SS133TA
R670 47
R1160 1K
C606 63V22 R606 1.8K
R608 56K
C608 K12P
JK405
SUB WOOFER OUT

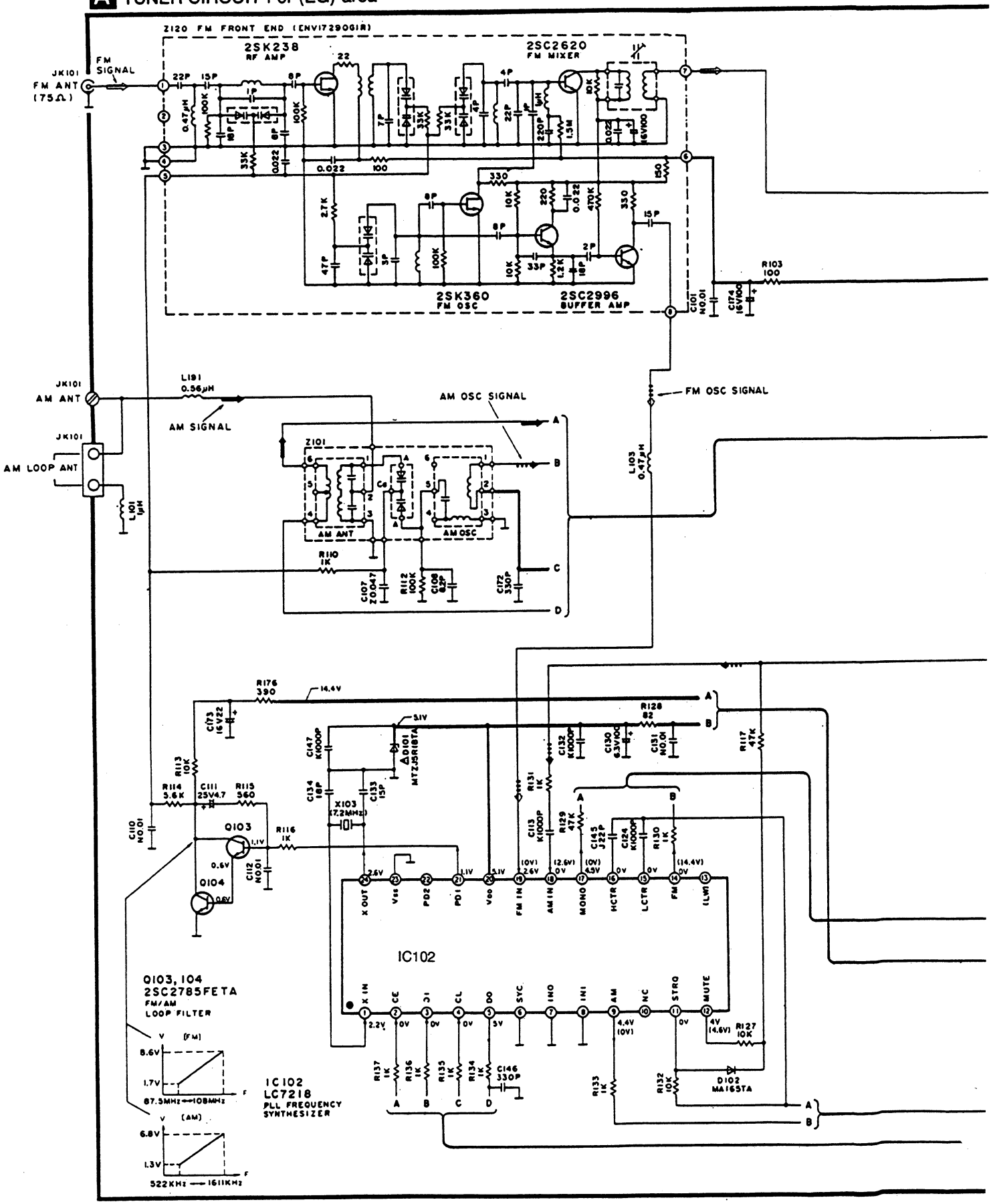

Q601
2SA1309ARTA
RELAY DRIVER
Q602
Q601,Q602
RL601
RL602
D601
RVD1SS133TA
D602
RVD1SS133TA
(L6)
(R6)
JK601
JK602
LCH
FRONT SPEAKERS
RCH
RCH
CENTER SPEAKERS
LCH
LCH
SURROUND SPEAKERS
RCH
E601
Q603
Q604
Q605
2SC3311ARTA
OVERLOAD DETECTOR
Q603,Q604
2SC3311ARTA
OVERLOAD DETECTOR
Q701,Q702
2SD2374PQAU
REGULATOR
Q703
2SC2631QRSTA
STABILIZER
Q702
Q701
Q705
Q706
Q704
Q707
Q708
Q706
2SC3940AQSTA
REGULATOR
Q704,Q705
2SC3311ARTA
STABILIZER
Q707,Q708
2SB1548PQAU
REGULATOR
JUMPER
JUMPER
D701~D704
1N5402BM21
W701
CN752
FL_AC2
FL_AC1
HIGH_TAP
HIGH_TAP
HIGH_TAP
HIGH_TAP
GND
GND
LOW_TAP
LOW_TAP
LOW_TAP
LOW_TAP
+6.2V
RELAY
GND
TO G
TRANSFORMER CIRCUIT
(W701)
(PAGE 22)
TO F
POWER SUPPLY CIRCUIT
(W752)
(PAGE 22)

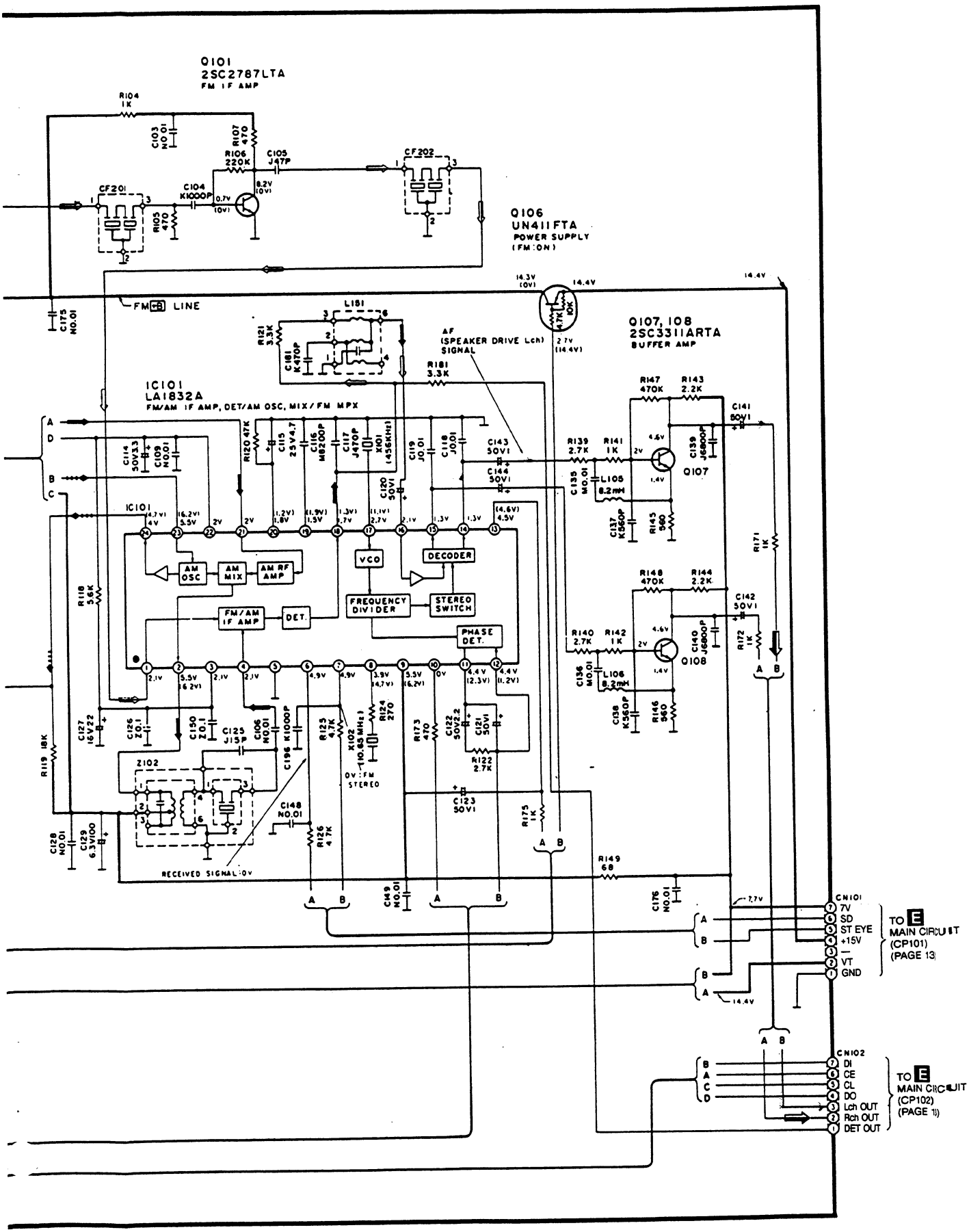


I IN/OUT TERMINAL CIRCUIT

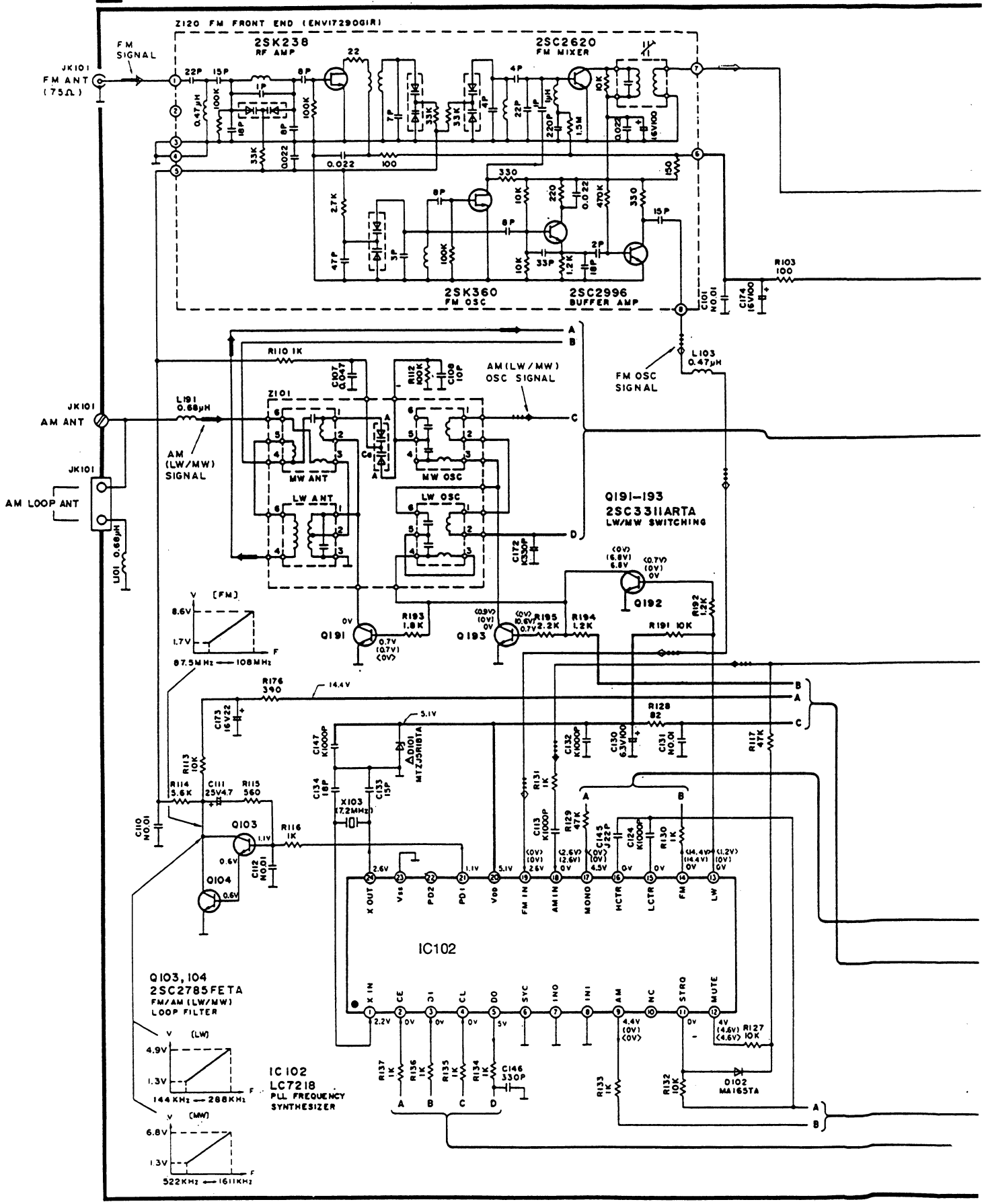


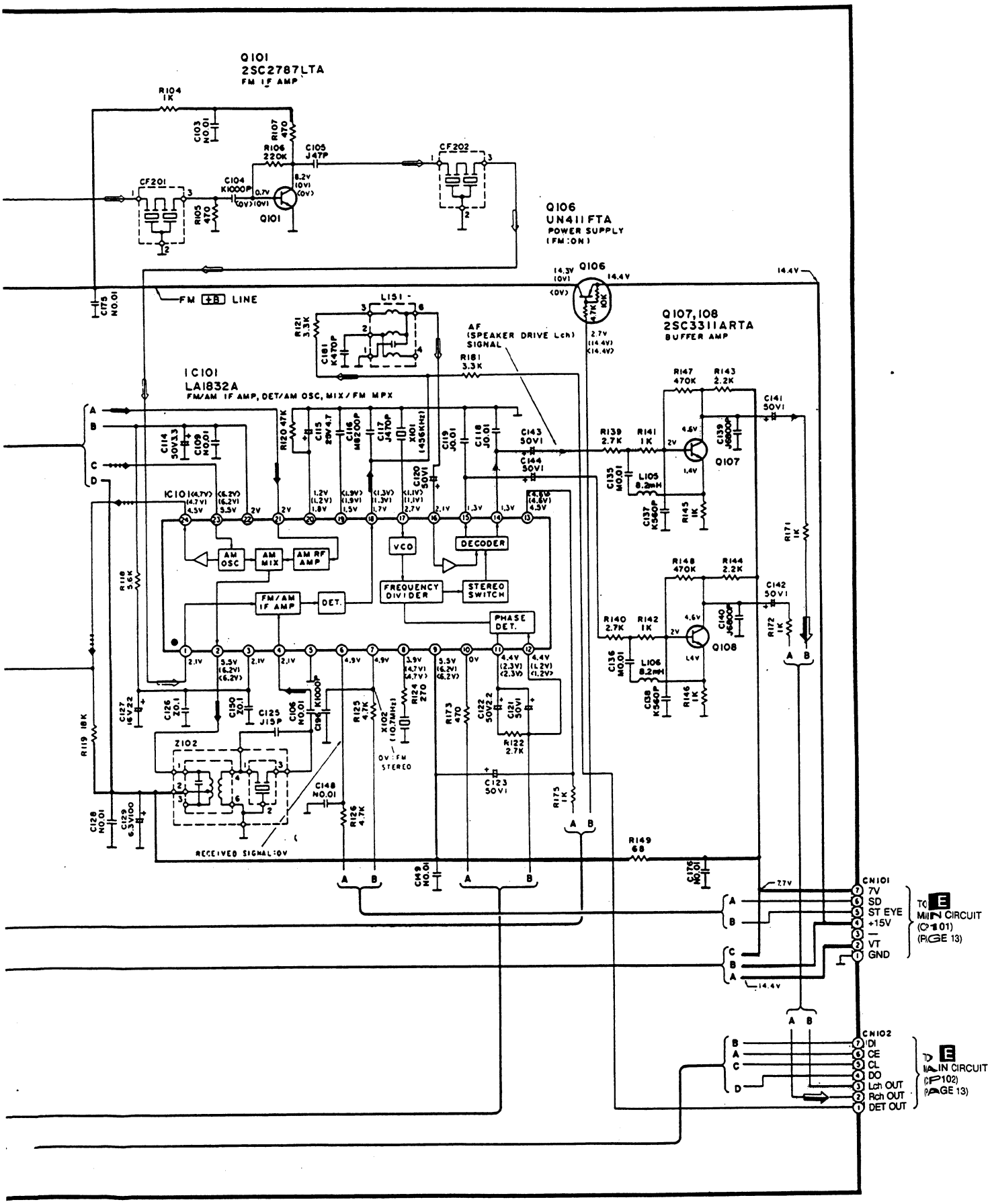
A TUNER CIRCUIT For (EG) area



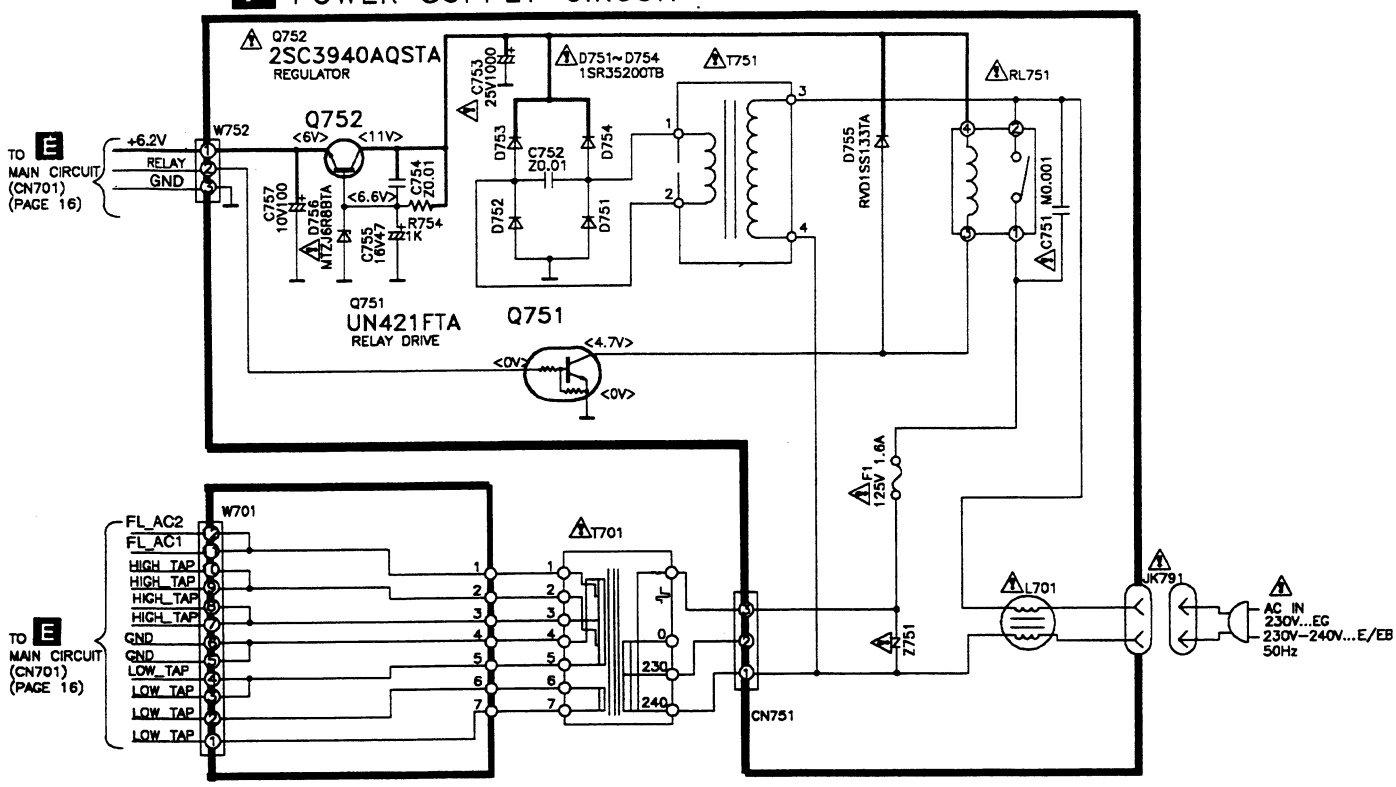

Q101
2SC2787LTA
FM IF AMP
Q106
UN411FTA
POWER SUPPLY
(FM:ON)
FM-B LINE
IC101
LA1832A
FM/AM IF AMP, DET/AM OSC, MIX/FM MPX
AM OSC
AM MIX
AM RF AMP
VCO
DECODER
FREQUENCY DIVIDER
STEREO SWITCH
FM/AM IF AMP
DET.
PHASE DET.
Q107, 108
2SC3311ARTA
BUFFER AMP
Q107
Q108
AF (SPEAKER DRIVE Lch) SIGNAL
RECEIVED SIGNAL:0V
0V:FM STEREO
CN101
7V
SD
ST EYE
+15V
—
VT
GND
TO E MAIN CIRCUIT (CP101) (PAGE 13)
CN102
DI
CE
CL
DO
Lch OUT
Rch OUT
DET OUT
TO E MAIN CIRCUIT (CP102) (PAGE 11)

A TUNER CIRCUIT For (E) & (EB) areas

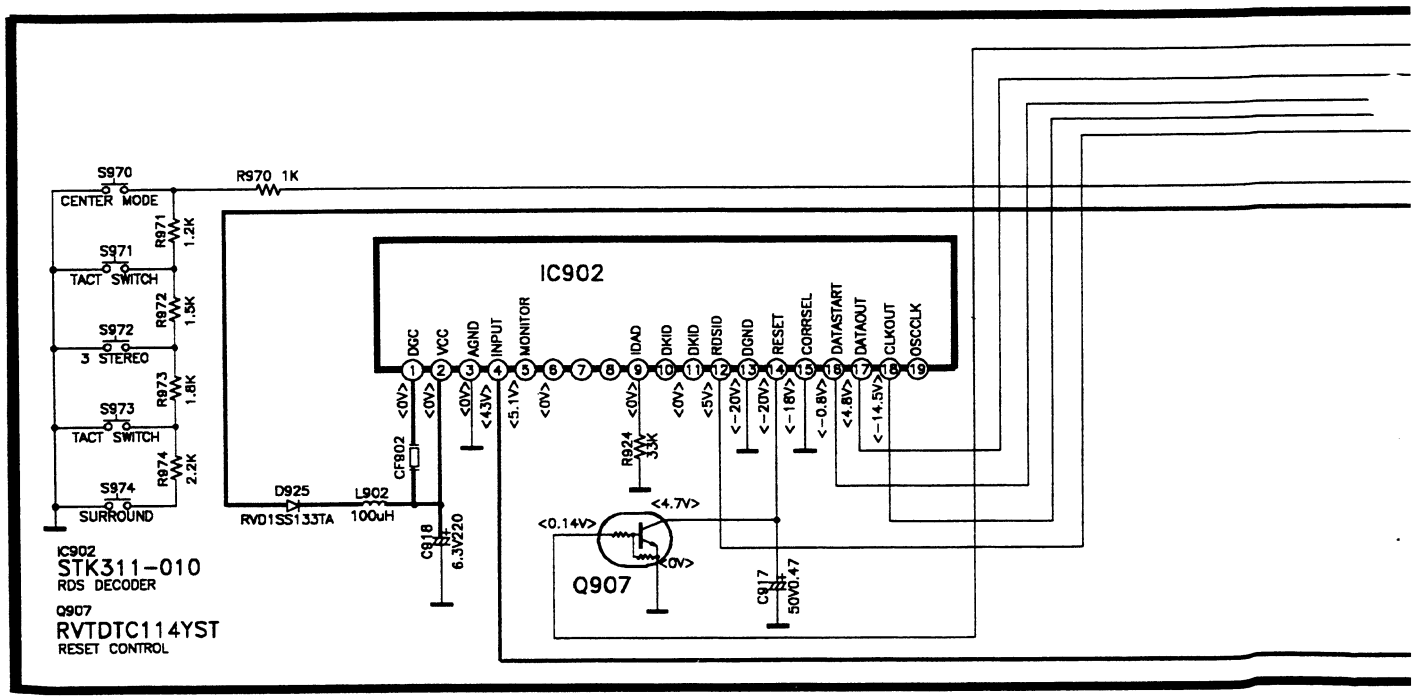



Q101
2SC2787LTA
FM I.F AMP
Q106
UN411FTA
POWER SUPPLY
(FM:ON)
FM +B LINE
IC101
LA1832A
FM/AM IF AMP, DET/AM OSC, MIX/FM MPX
Q107,108
2SC3311ARTA
BUFFER AMP
AF
(SPEAKER DRIVE Lch)
SIGNAL
AM OSC
AM MIX
AM RF AMP
FM/AM IF AMP
DET.
VCO
DECODER
FREQUENCY DIVIDER
STEREO SWITCH
PHASE DET.
RECEIVED SIGNAL:0V
0V:FM STEREO
CN101
7V
SD
ST EYE
+15V
—
VT
GND
TO MAIN CIRCUIT (CP101) (PAGE 13)
CN102
DI
CE
CL
DO
Lch OUT
Rch OUT
DET OUT
TO MAIN CIRCUIT (CP102) (PAGE 13)

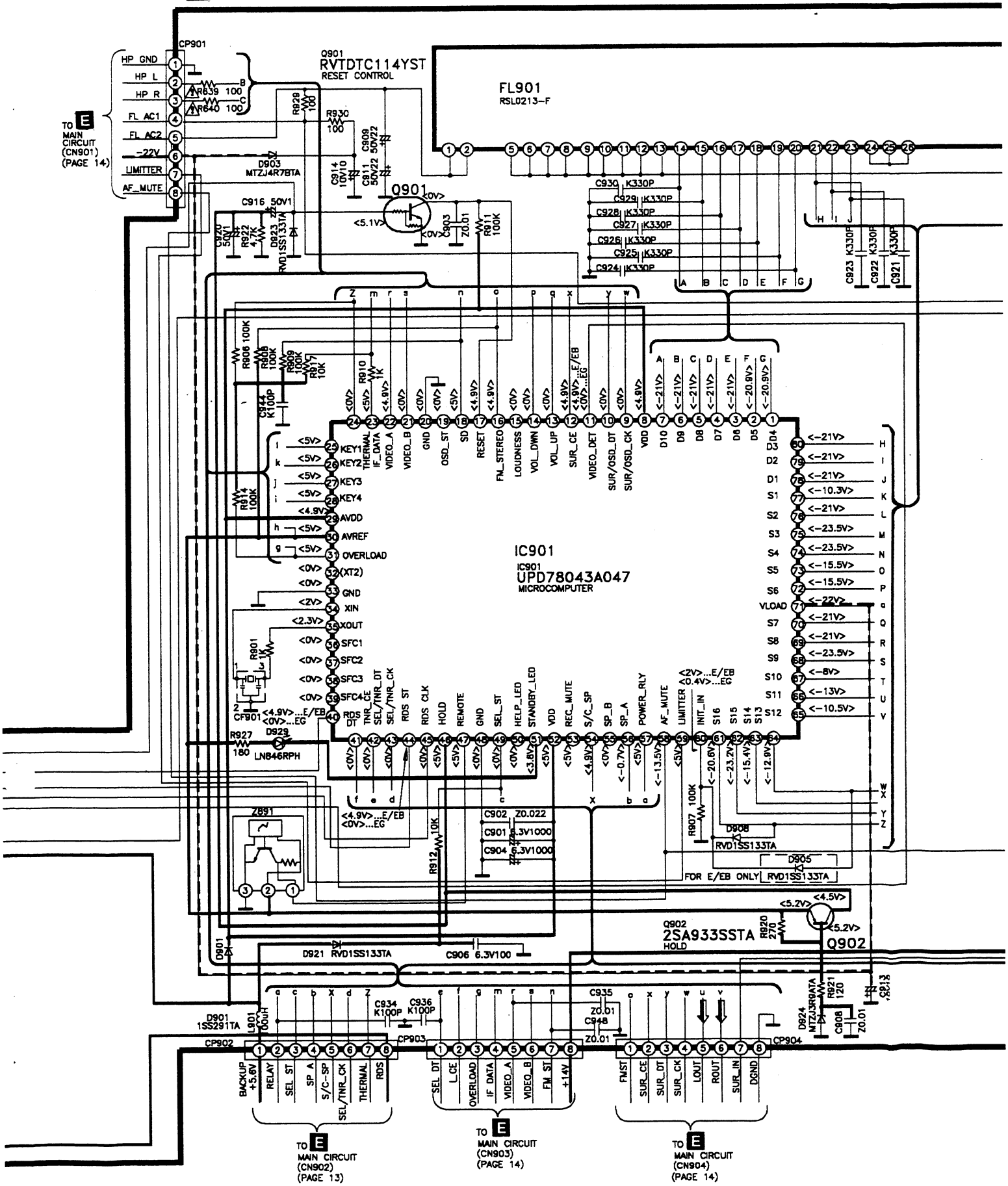
F POWER SUPPLY CIRCUIT

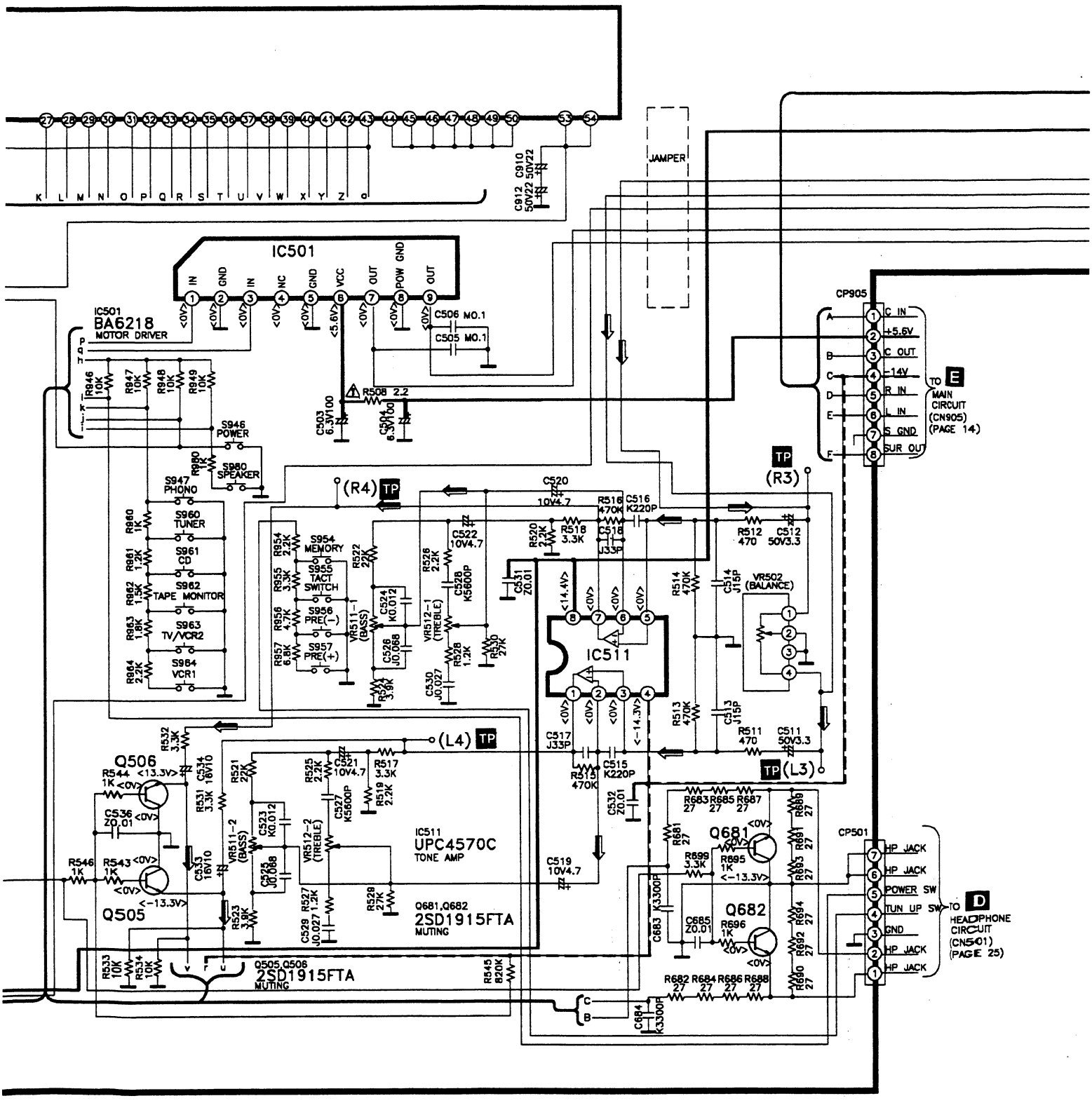


G TRANSFORMER CIRCUIT

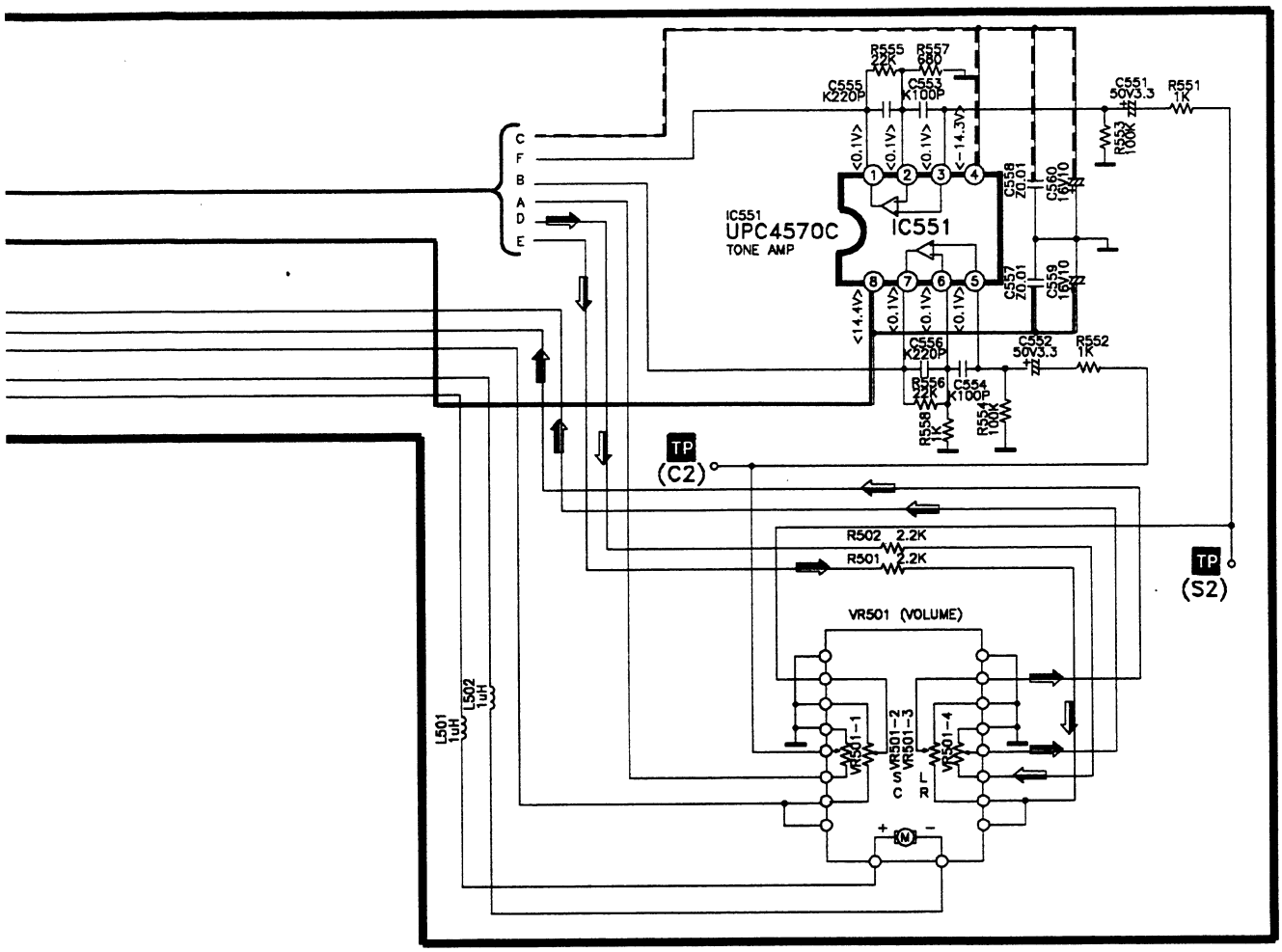


B PANEL CIRCUIT



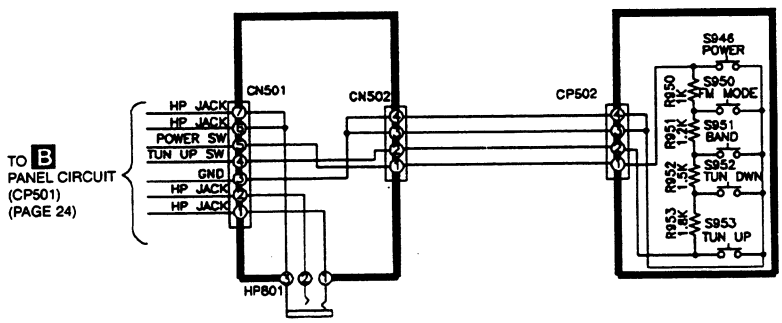

IC501
BA6218
MOTOR DRIVER
IC511
UPC4570C
TONE AMP
Q681,Q682
2SD1915FTA
MUTING
Q505,Q506
2SD1915FTA
MUTING
Q506
Q505
Q681
Q682
JAMPER
CP905
CP501
TO E MAIN CIRCUIT (CN905) (PAGE 14)
TO D HEADPHONE CIRCUIT (CN501) (PAGE 25)
S946 POWER
S947 PHONO
S960 TUNER
S961 CD
S962 TAPE MONITOR
S963 TV/VCR2
S964 VCR1
S954 MEMORY
S955 TACT SWITCH
S956 PRE(-)
S957 PRE(+)
S980 SPEAKER
VR502 (BALANCE)
VR511-1 (BASS)
VR512-1 (TREBLE)
VR511-2 (BASS)
VR512-2 (TREBLE)
(R3) TP
(R4) TP
(L3) TP
(L4) TP

C VOLUME CIRCUIT

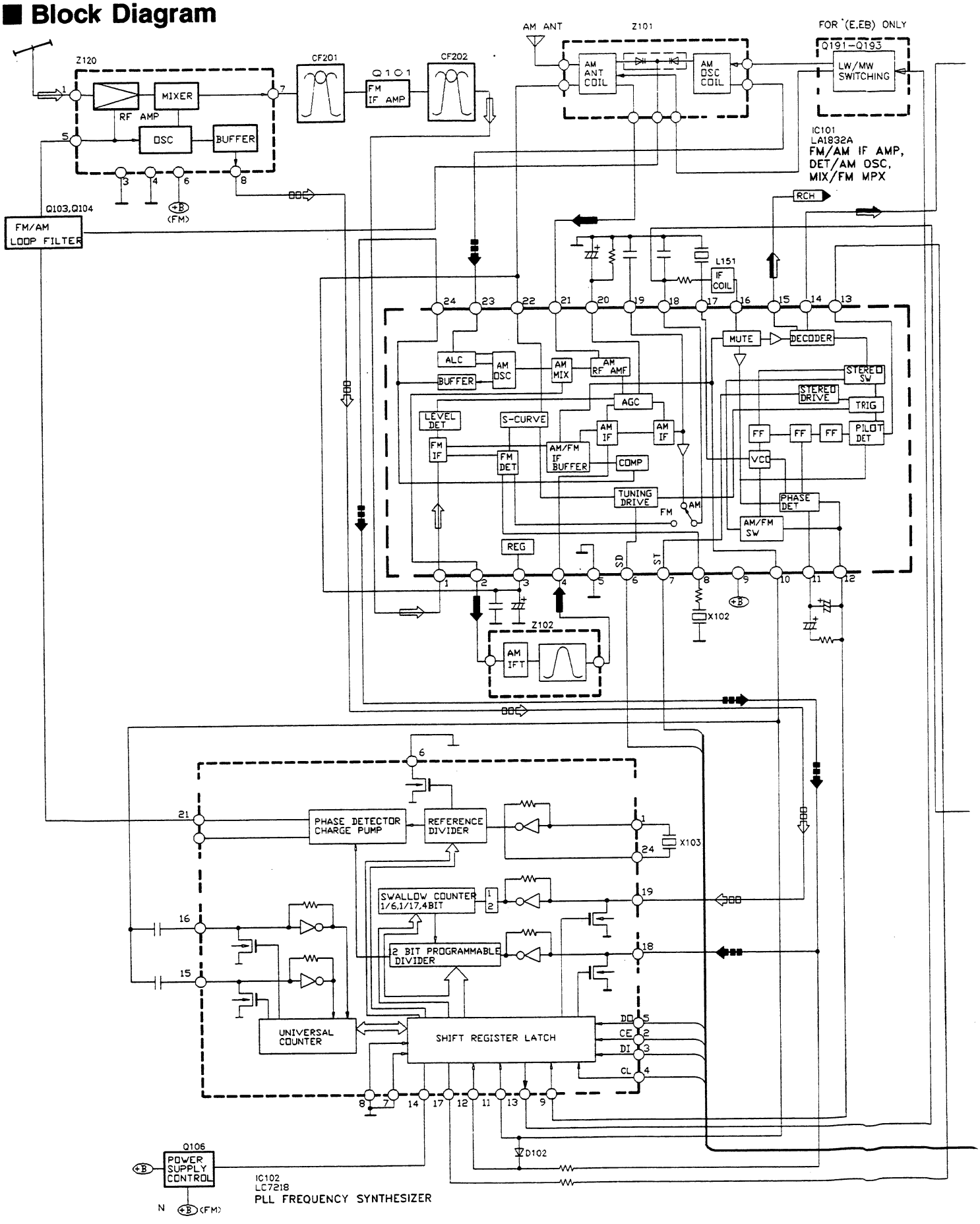


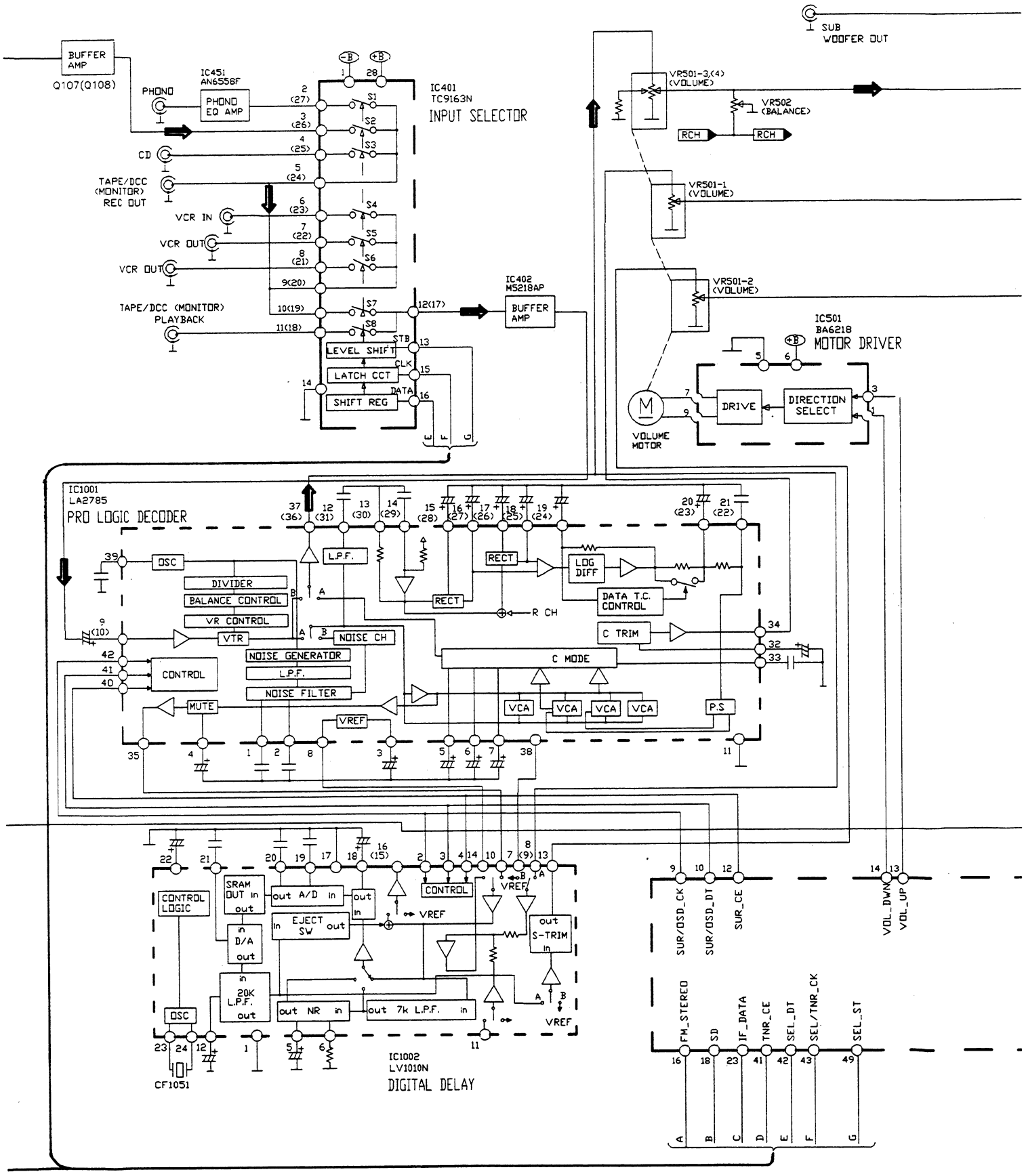
D HEADPHONE JACK CIRCUIT

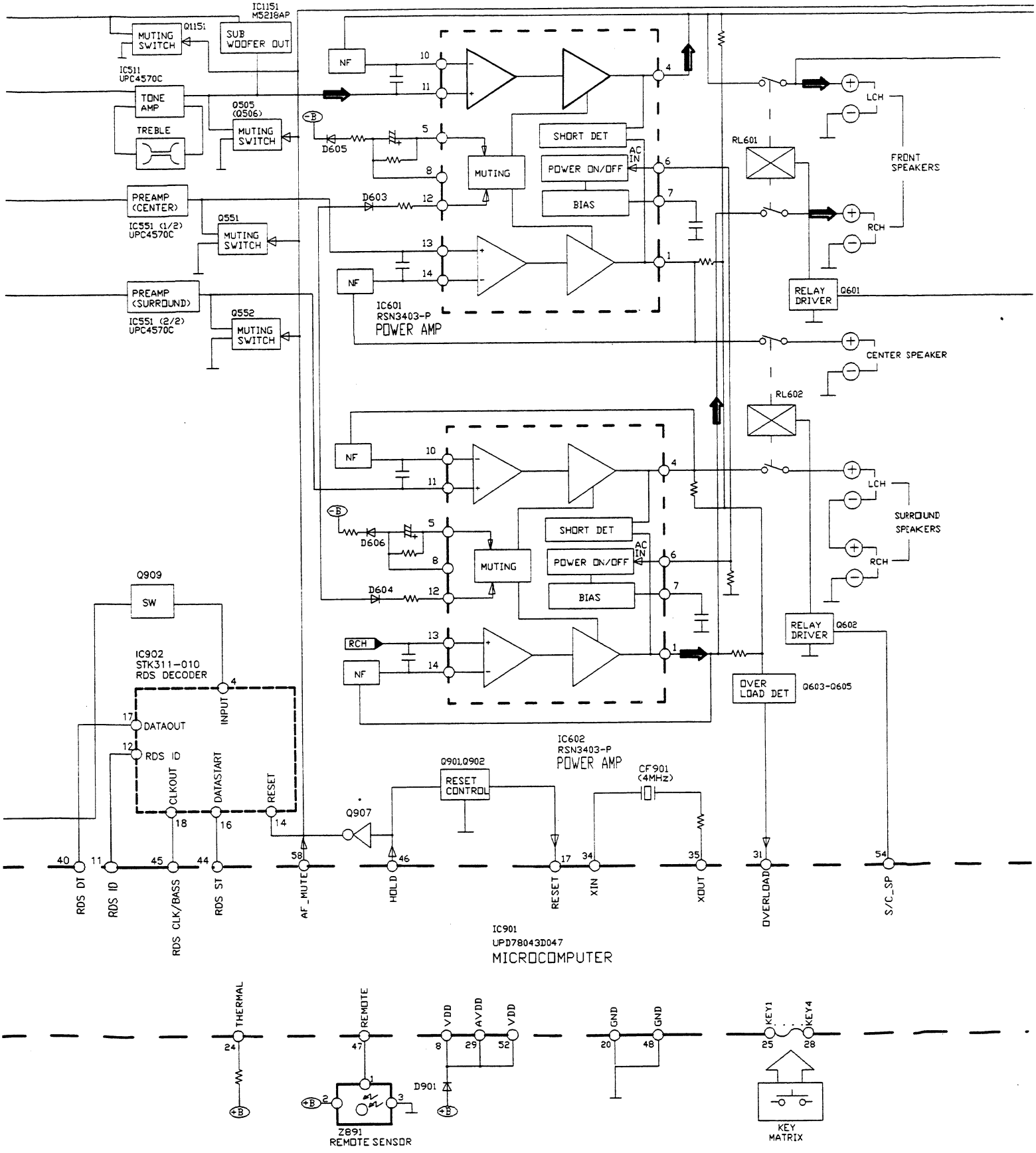
H OPERATION CIRCUIT

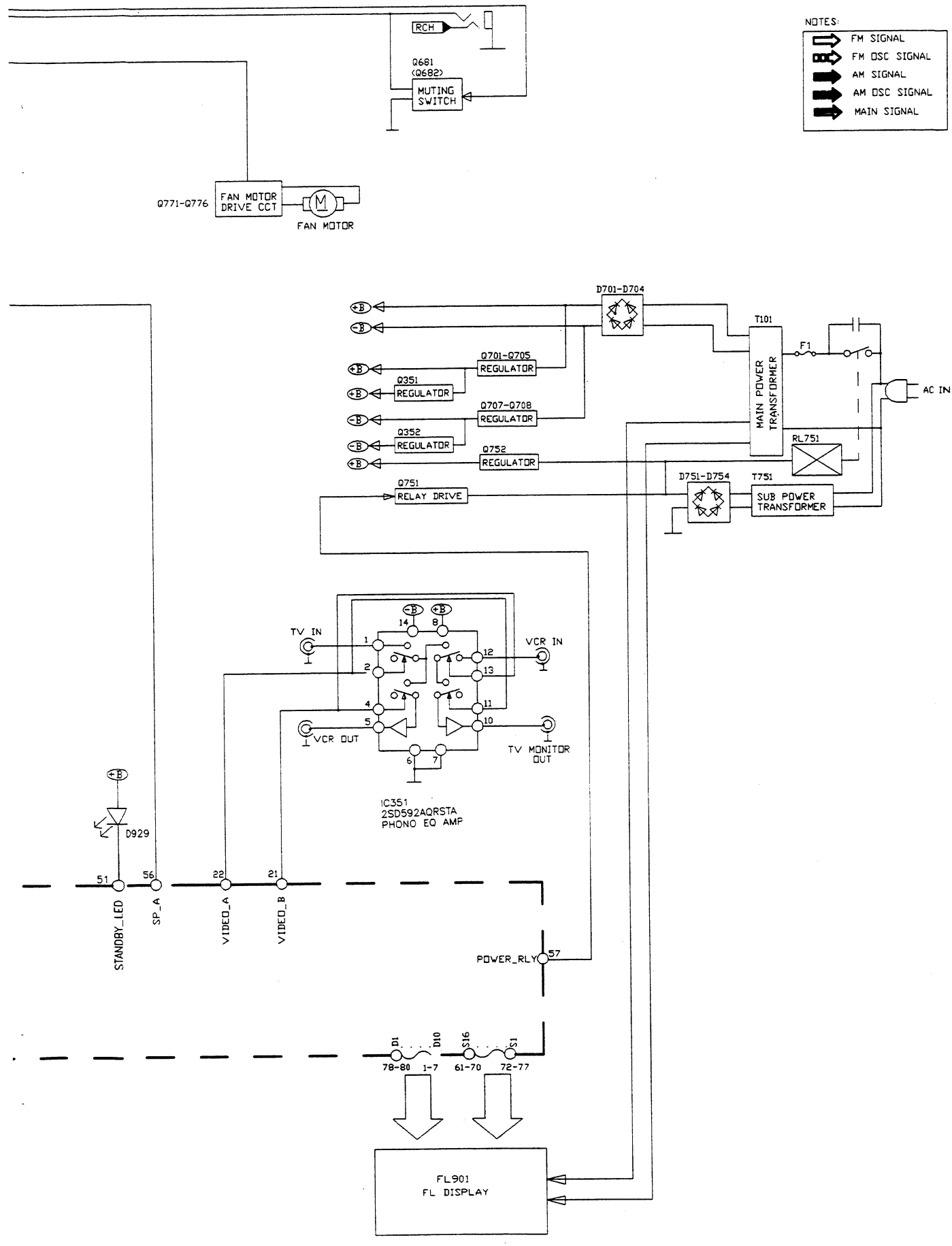


■ Block Diagram

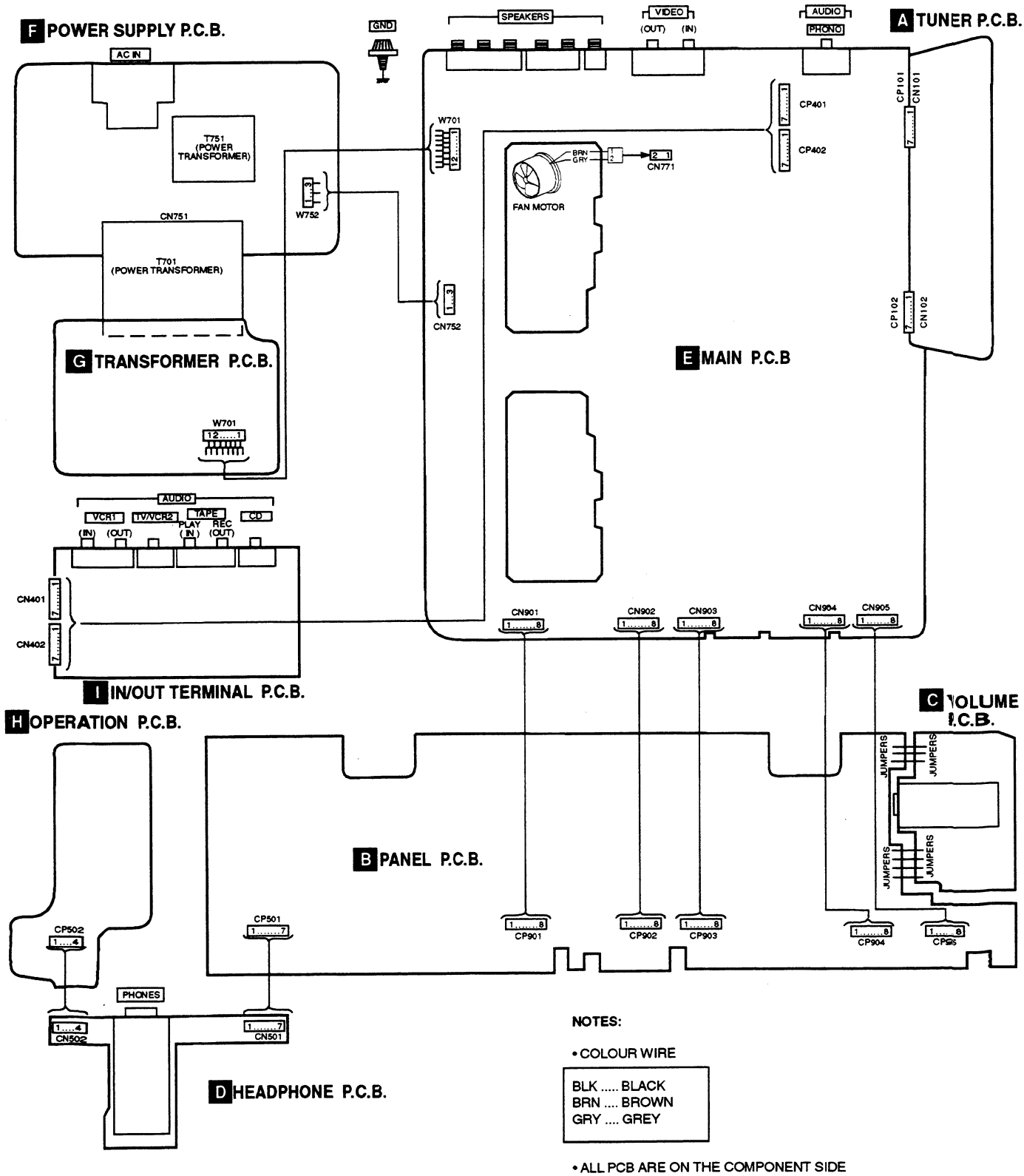



BUFFER AMP
Q107(Q108)
IC451
AN6556F
PHONO EQ AMP
PHONO
CD
TAPE/DCC (MONITOR) REC OUT
VCR IN
VCR OUT
VCR OUT
TAPE/DCC (MONITOR) PLAYBACK
IC401
TC9163N
INPUT SELECTOR
S1
S2
S3
S4
S5
S6
S7
S8
LEVEL SHIFT
LATCH CCT
SHIFT REG
STB
CLK
DATA
IC402
M5218AP
BUFFER AMP
SUB WOOFER OUT
VR501-3,(4) (VOLUME)
VR502 (BALANCE)
RCH
RCH
VR501-1 (VOLUME)
VR501-2 (VOLUME)
IC501
BA6218
MOTOR DRIVER
DRIVE
DIRECTION SELECT
VOLUME MOTOR
IC1001
LA2785
PRO LOGIC DECODER
OSC
DIVIDER
BALANCE CONTROL
VR CONTROL
VTR
CONTROL
MUTE
L.P.F.
RECT
LOG DIFF
DATA T.C. CONTROL
R CH
NOISE CH
NOISE GENERATOR
L.P.F.
NOISE FILTER
VREF
C TRIM
C MODE
VCA
VCA
VCA
VCA
P.S
IC1002
LV1010N
DIGITAL DELAY
CONTROL LOGIC
SRAM OUT in out
out A/D in
out in
CONTROL
EJECT SW
out S-TRIM in
in D/A out
in 20K L.P.F. out
out NR in
out 7k L.P.F. in
OSC
CF1051
SUR/DSD_CK
SUR/DSD_DT
SUR_CE
VOL_DWN
VOL_UP
FM_STEREO
SD
IF_DATA
TNR_CE
SEL_DT
SEL/TNR_CK
SEL_ST


IC1151
M5218AP
MUTING SWITCH
Q1151
SUB WOOFER OUT
IC511
UPC4570C
TONE AMP
TREBLE
Q505
(Q506)
MUTING SWITCH
PREAMP (CENTER)
IC551 (1/2)
UPC4570C
Q551
MUTING SWITCH
PREAMP (SURROUND)
IC551 (2/2)
UPC4570C
Q552
MUTING SWITCH
NF
D605
D603
SHORT DET
MUTING
POWER ON/OFF
BIAS
AC IN
IC601
RSN3403-P
POWER AMP
RL601
LCH
RCH
FRONT SPEAKERS
RELAY DRIVER
Q601
CENTER SPEAKER
RL602
D606
D604
SURROUND SPEAKERS
Q909
SW
IC902
STK311-010
RDS DECODER
INPUT
DATAOUT
RDS ID
CLKOUT
DATASTART
RESET
Q907
Q901,Q902
RESET CONTROL
IC602
RSN3403-P
POWER AMP
CF901
(4MHz)
OVER LOAD DET
Q603-Q605
RDS DT
RDS ID
RDS CLK/BASS
RDS ST
AF_MUTE
HOLD
RESET
XIN
XOUT
OVERLOAD
S/C_SP
IC901
UPD78043D047
MICROCOMPUTER
THERMAL
REMOTE
VDD
AVDD
VDD
GND
GND
KEY1
KEY4
D901
Z891
REMOTE SENSOR
KEY MATRIX


RCH
Q681
(Q682)
MUTING SWITCH
NOTES:
FM SIGNAL
FM OSC SIGNAL
AM SIGNAL
AM OSC SIGNAL
MAIN SIGNAL
Q771-Q776
FAN MOTOR DRIVE CCT
FAN MOTOR
D701-D704
T101
MAIN POWER TRANSFORMER
F1
AC IN
Q701-Q705
REGULATOR
Q351
REGULATOR
Q707-Q708
REGULATOR
Q352
REGULATOR
Q752
REGULATOR
RL751
Q751
RELAY DRIVE
D751-D754
T751
SUB POWER TRANSFORMER
TV IN
VCR IN
VCR OUT
TV MONITOR OUT
IC351
2SD592AQRSTA
PHONO EQ AMP
D929
STANDBY_LED
SP_A
VIDEO_A
VIDEO_B
POWER_RLY
D1
D10
S16
S1
78-80
1-7
61-70
72-77
FL901
FL DISPLAY

■ Wiring Connection Diagram



NOTES:

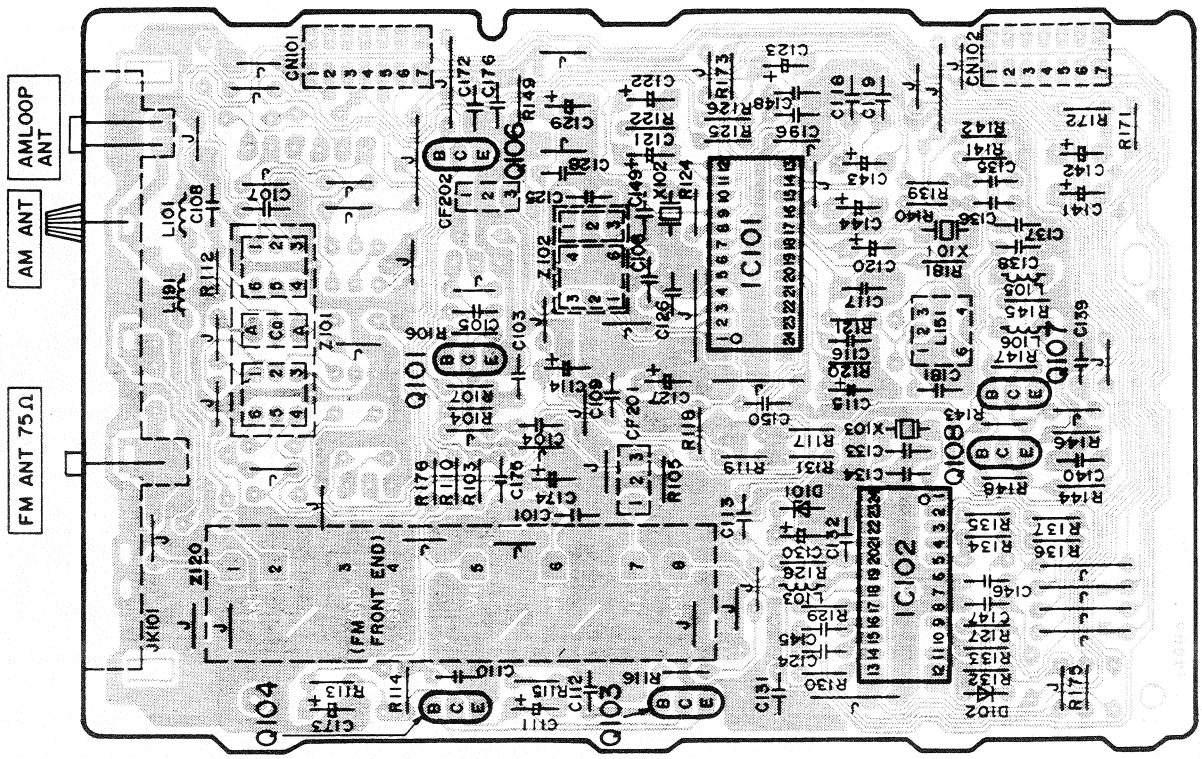
- COLOUR WIRE

BLK	BLACK
BRN	BROWN
GRY	GREY

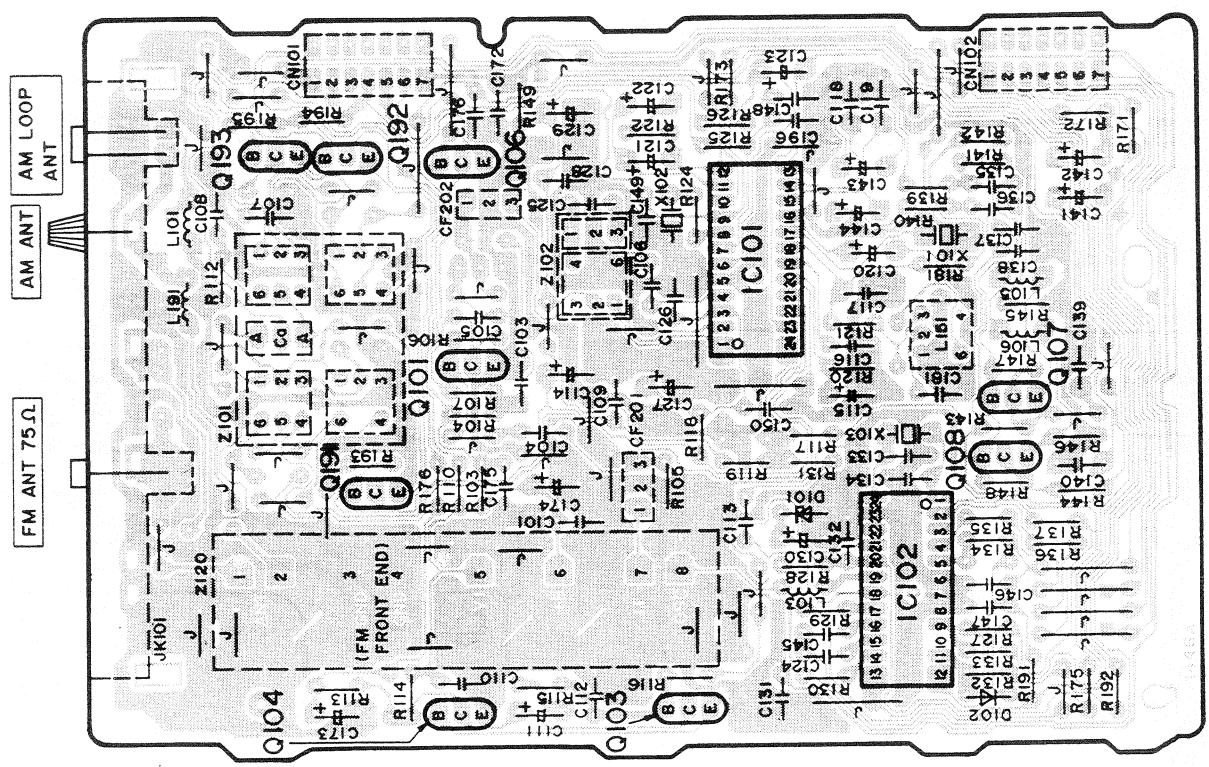
- ALL PCB ARE ON THE COMPONENT SIDE

■ Printed Circuit Board

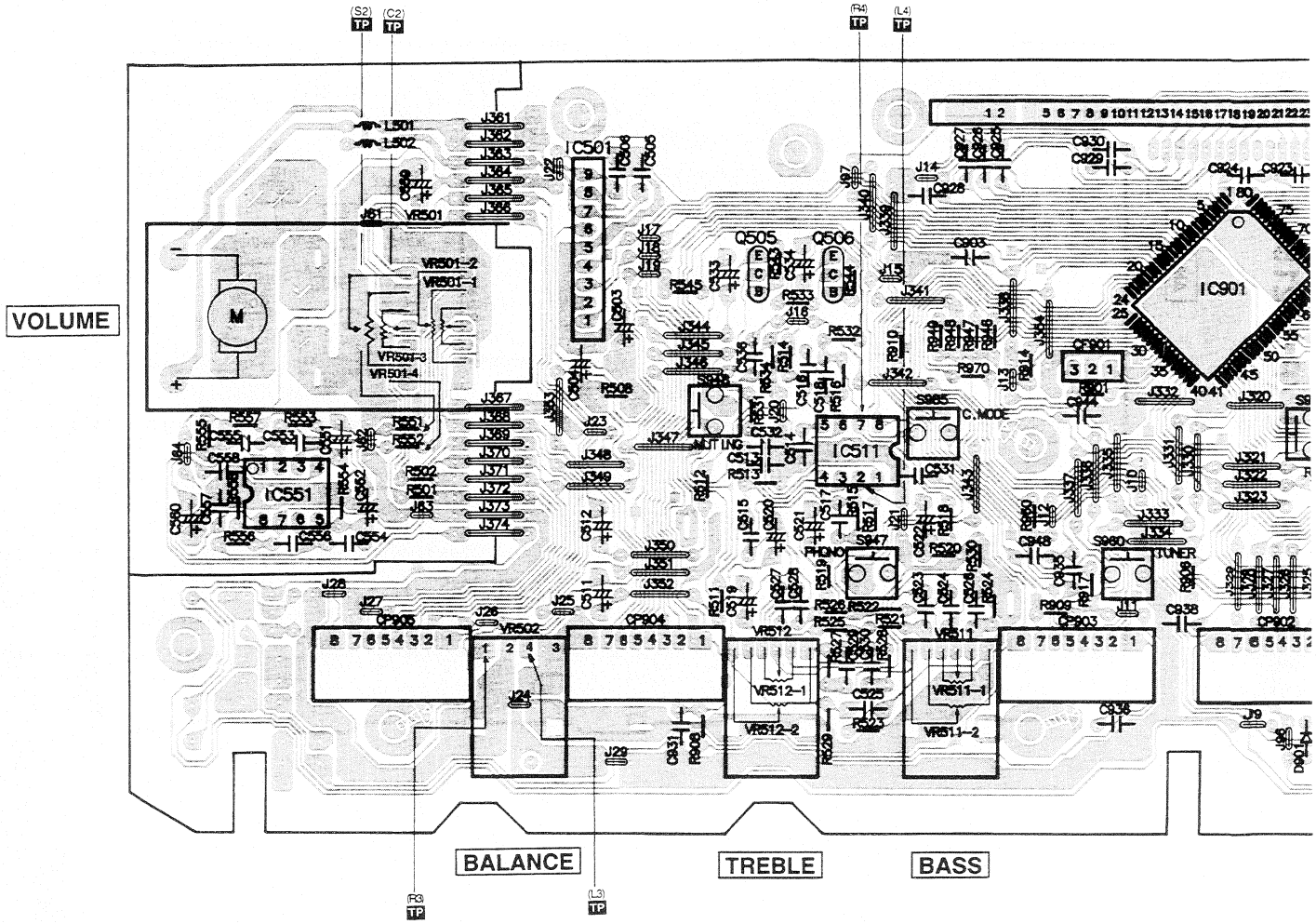
A TUNER P.C.B. (REP2158A-T .. EG)



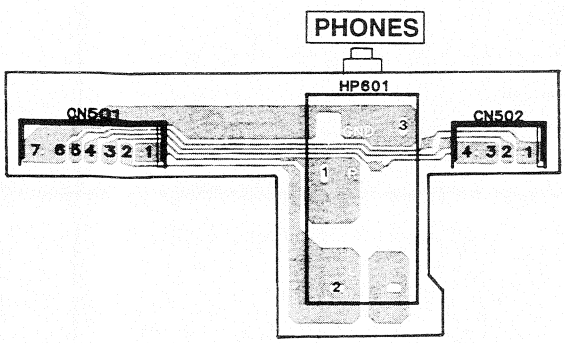
A TUNER P.C.B. (REP2158B-T .. E,EB)



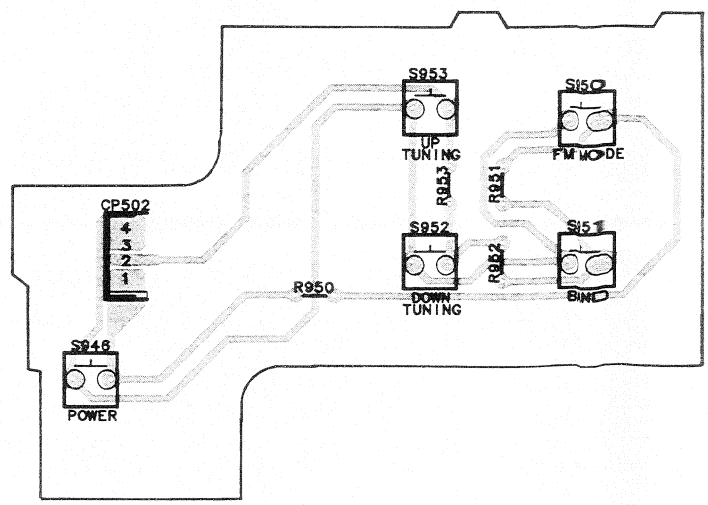
C VOLUME P.C.B. (REP2256B-S .. E,EB) (REP2256C-S .. EG)



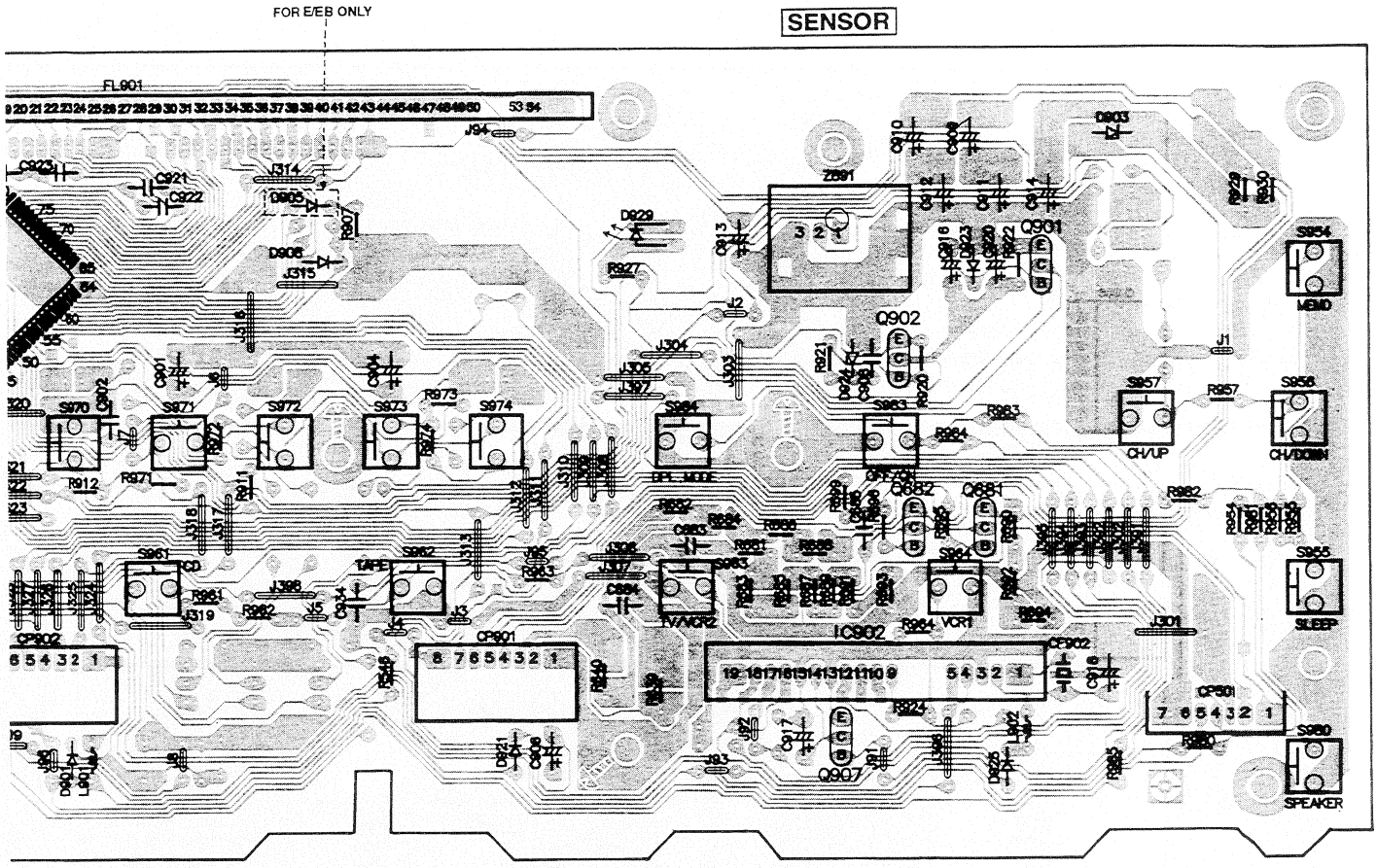
D HEADPHONES JACK P.C.B. (REP2256B-S .. E,EB) (REP2256C-S .. EG)



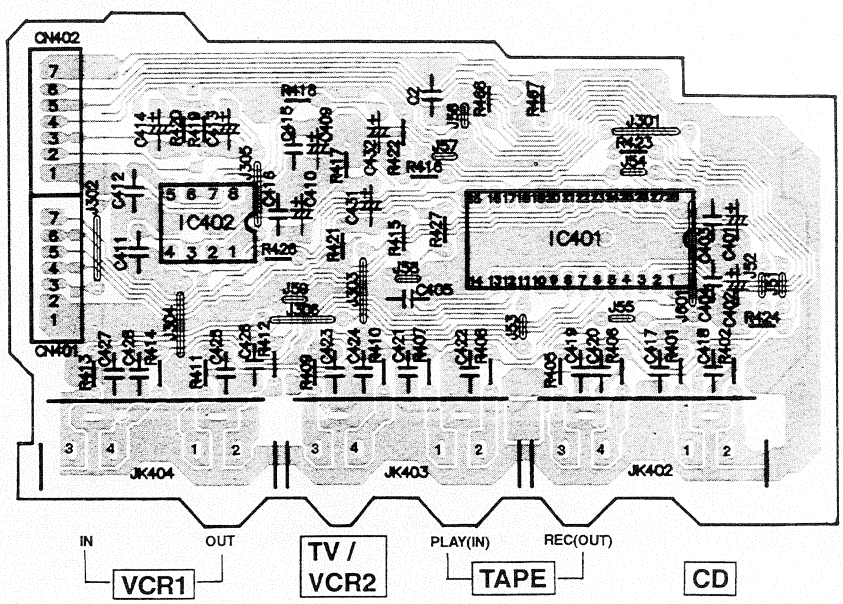
H OPERATION P.C.B. (REP2256B-S .. E,EB) (REP2256C-S .. EG)



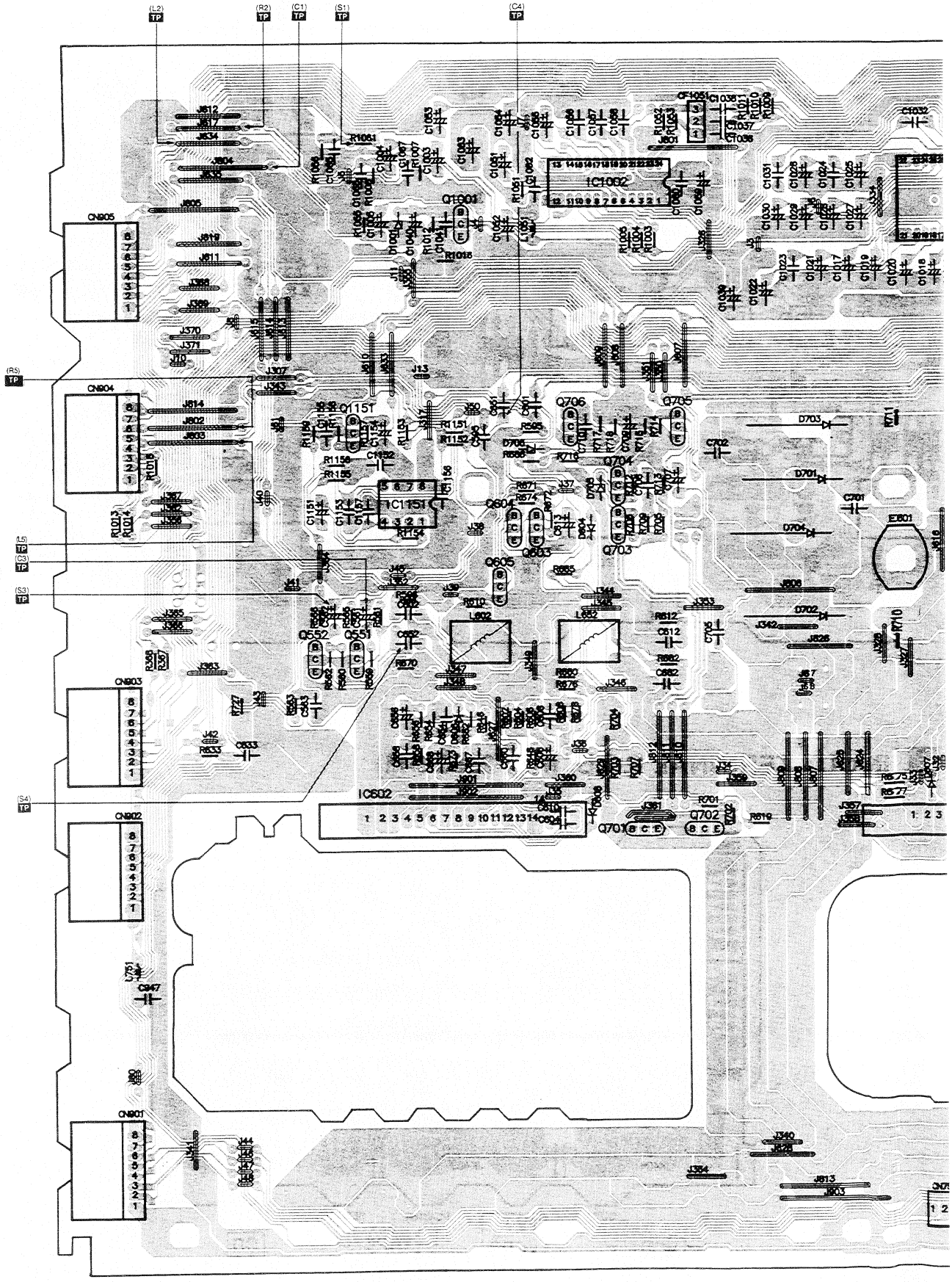
B PANEL P.C.B. (REP2256B-S .. E,EB) (REP2256C-S .. EG)

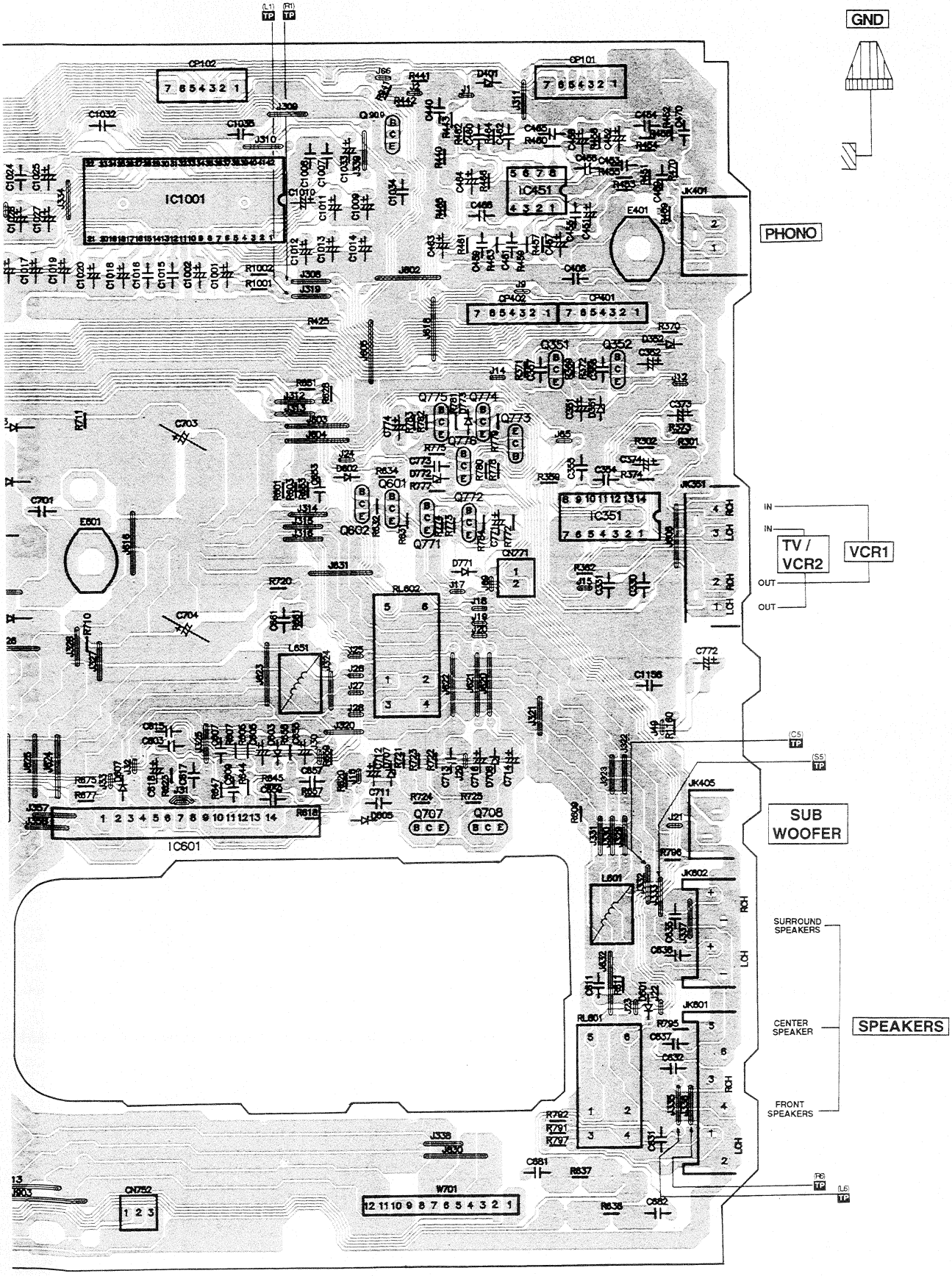


I IN/OUT TERMINAL P.C.B. (REP2255B-M)

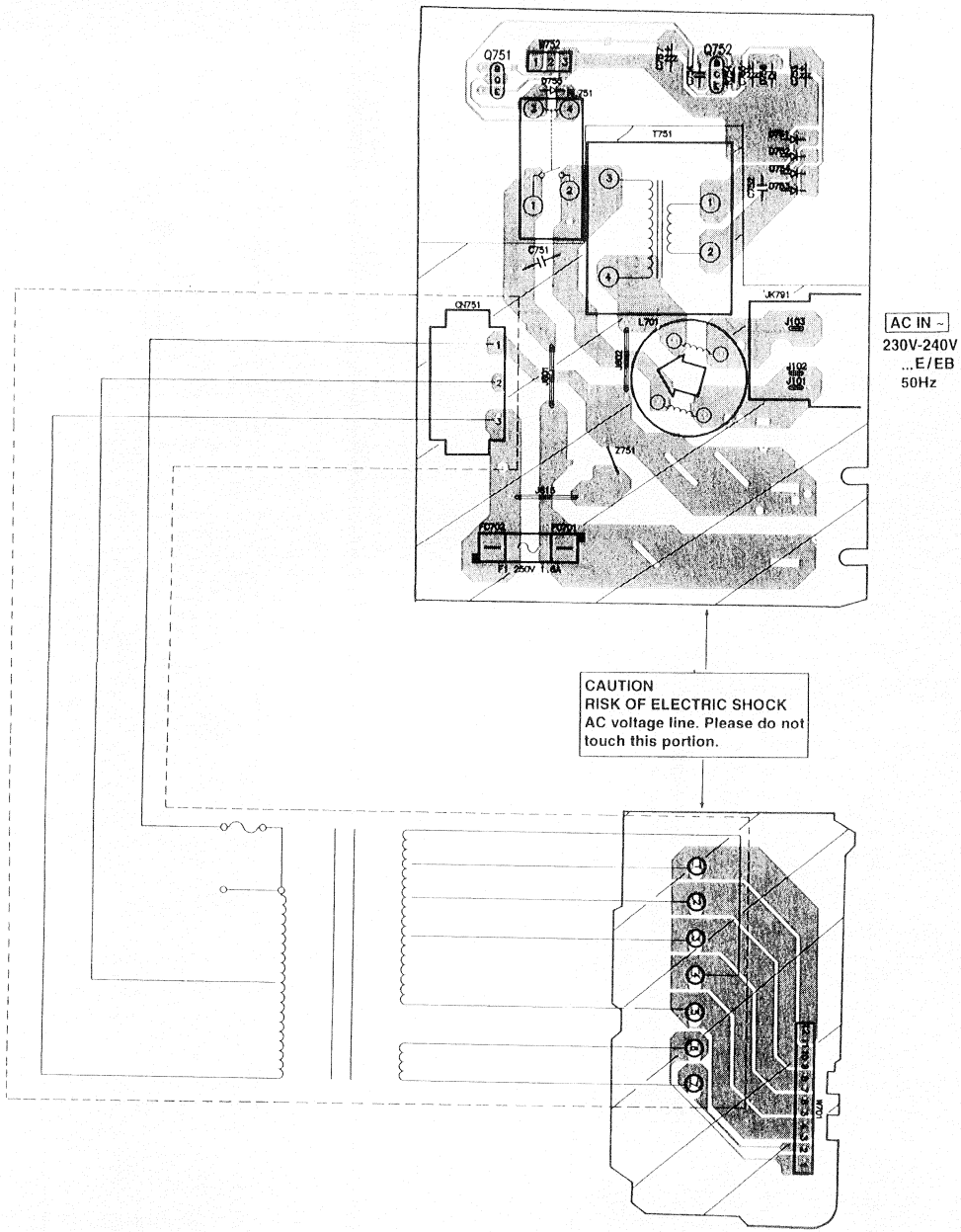


E MAIN P.C.B. (REP2255B-M)

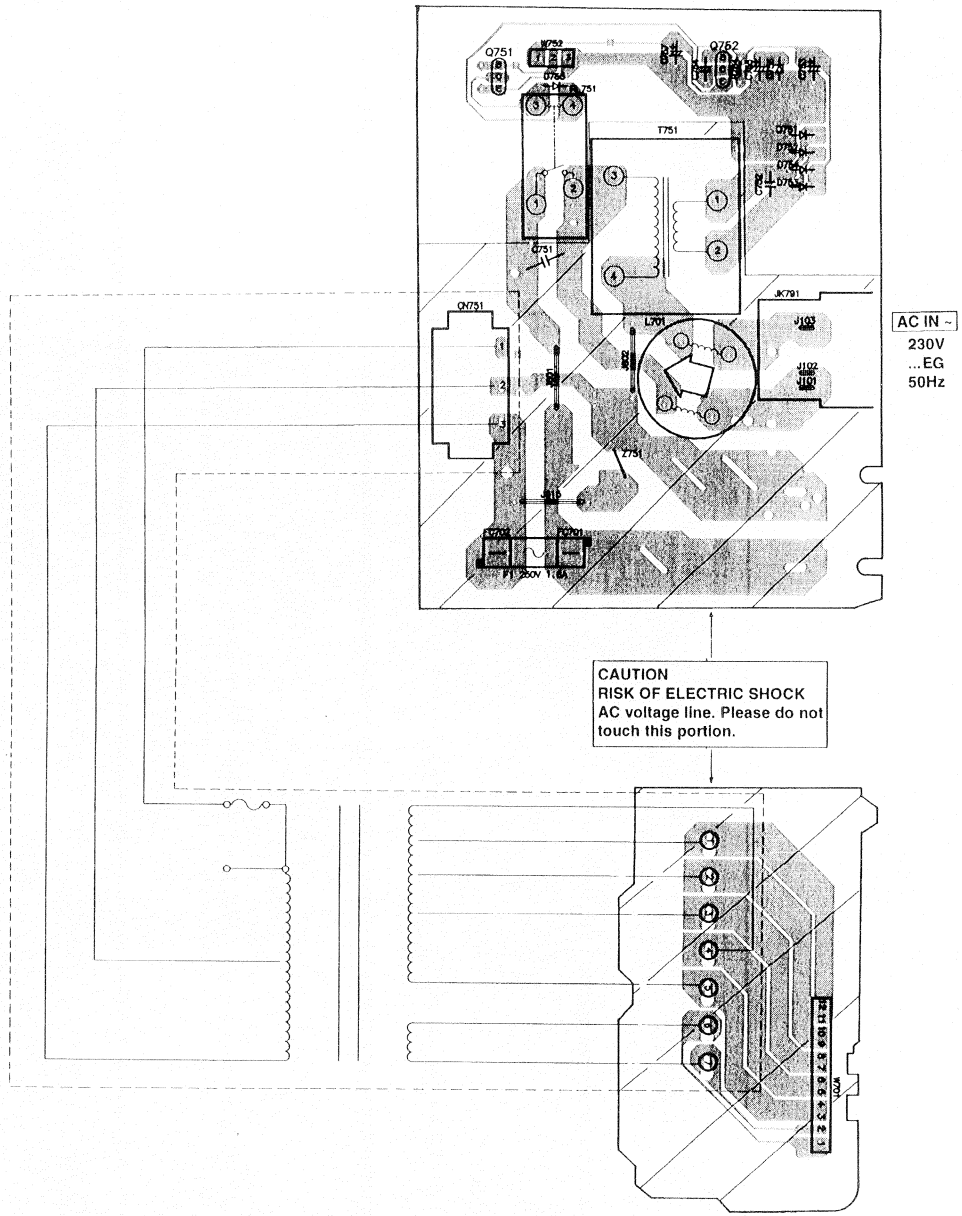



GND
PHONO
IN
IN
TV / VCR2
VCR1
OUT
OUT
SUB WOOFER
SURROUND SPEAKERS
CENTER SPEAKER
FRONT SPEAKERS
SPEAKERS
IC1001
IC451
IC351
IC601
IC771
IC773
CP102
CP101
CP402
CP401
JK401
JK351
JK405
JK802
JK801
RL602
RL801
W701
CN752

F POWER SUPPLY P.C.B. (REP2257B-P .. E,EB)



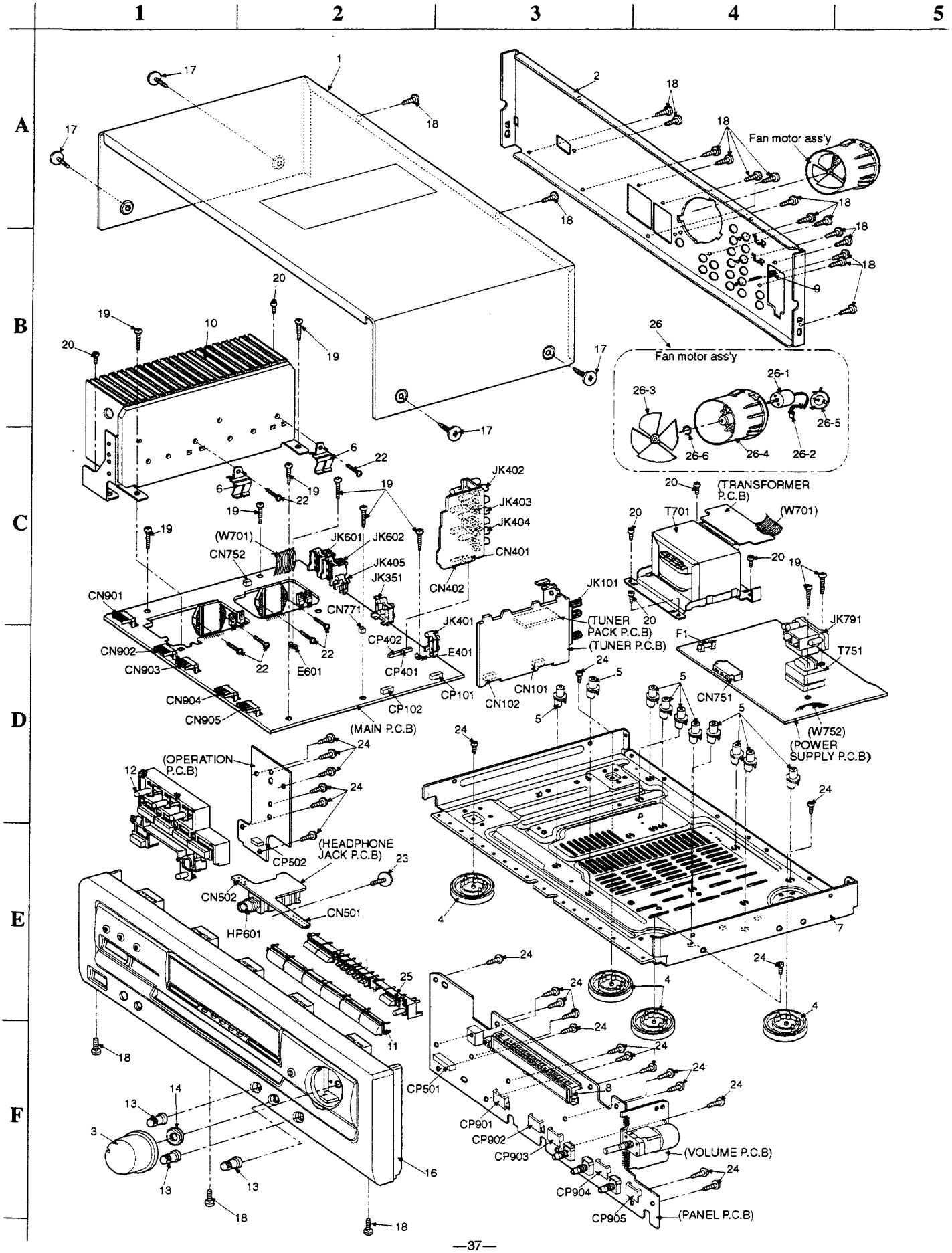
F POWER SUPPLY P.C.B. (REP2257C-P .. EG)



G TRANSFORMER P.C.B. (REP2257B-P .. E,EB)

G TRANSFORMER P.C.B. (REP2257C-P .. EG)

■ Cabinet Parts Location



■ Replacement Parts List

Notes: • Important safety notice :
Components identified by ⚠ mark have special characteristics important for safety.
Furthermore, special parts which have purposes of fire-retardant (resistors), high-quality sound (capacitors), low-noise (resistors), etc. are used.
When replacing any of components, be sure to use only manufacturer's specified parts shown in the parts list.
- The parenthesized in the Remarks columns specify the areas. (Refer to the cover page for area.)
Parts without these indication can be used for all areas.
- [M] in Remarks column indicates parts that are supplied by **MESA**.
- [MAV] in Remarks column indicates parts that are supplied by **MAV**.
- Remote Control Unit : Supply period for three years from terminal of production.
- The "(SF)" mark denotes the standard part.
- [VRD] indicates in Remarks column parts that are supplied by **Video Recorder Division**.

Ref No.	Part No.	Part Name & Description	Remarks
		CABINET AND CHASSIS	
1	RKM0319B-K	CABINET	[MAV]
2	RGR0234C-B1	REAR PANEL	[MAV](E)
2	RGR0234C-C	REAR PANEL	[MAV](EB)
2	RGR0234C-A	REAR PANEL	[MAV](EG)
3	RGW0243A-K	VOLUME KNOB	[MAV]
4	RKA0079-A	FOOT	[MAV]
5	RKQ0089	PCB SUPPORT	
6	RMC0158-S	TR FIXTURE	[M]
7	RMK0313	BOTTOM CHASSIS	[MAV]
8	RMN0372	FL HOLDER	[MAV]
9	SNE2123	EARTH TERMINAL	
10	RXX0166	HEAT SINK UNIT	[MAV]
11	RGU1351-K	SELECTOR BUTTON	[MAV]
12	RGU1350A-K	MODE BUTTON	[MAV]
13	RGW0244-K	BASS TREBLE KNOB	[MAV]
14	RHN90001	M9 NUT	
16	RFKGEX300EK	FRONT PANEL ASS'Y	[MAV]
17	SNE2129-1	SCREW (CABINET)	
18	XTBS3+8JFZ1	SCREW (REAR PANEL)	
19	XTB3+20JFZ	SCREW (MAIN PCB)	
20	XTB3+8FFZ	SCREW (TRNFM/H SINK)	
22	XTW3+15T	SCREW (HIC/FIXTURE)	
23	RHD26016	SCREW (H. PHONES)	
24	XTBS26+10J	SCREW (FRONT PANEL)	
25	RGU1352F-K	DOLBY BUTTON	[MAV]
26	RYQ0173-K	FAN UNIT	[MAV]
26-1	MDN-4RB4MRC	MOTOR	
26-2	REX0811	CONNECTOR UNIT	[MAV]
26-3	SHE232-1	64MM PROPELLER	
26-4	SHE233-1	FAN CASE	
26-5	SHE234	FAN CASE COVER	
26-6	SUS271	MOTOR SPRING	
		INTEGRATED CIRCUITS	
IC101	LA1832A	IC, IF/MPX	
IC102	LC7218	IC, PLL	

Ref No.	Part No.	Part Name & Description	Remarks
IC351	NJM2279D	IC, VIDEO SELECTOR SW	
IC401	TC9163N	IC, SELECTOR	
IC402	M5218AP	IC, BUFFER AMP	
IC451	AN6558-F	IC, PHONO EQ AMP	[M]
IC501	BA6218	IC, MOTOR DRIVER	
IC511	UPC4570C	IC, TONE CONTROL	
IC551	UPC4570C	IC, TONE CONTROL	
IC601	RSN3403-P	IC, HIC	[MAV] ⚠
IC602	RSN3403-P	IC, HIC	[MAV] ⚠
IC901	UPD78043A047	IC, MICRO COMPUTER	[MAV]
IC902	STK311-010	IC, RDS DECODER	[M]
IC1001	LA2785	IC, PRO LOGIC DECODER	
IC1002	LV1010N	IC, DIGITAL DELAY	
IC1151	M5218AP	IC, BUFFER AMP	
		TRANSISTORS	
Q101	2SC2787LTA	TRANSISTOR	
Q103	2SC2785FETA	TRANSISTOR	
Q104	2SC2785FETA	TRANSISTOR	
Q106	UN411FTA	TRANSISTOR	
Q107	2SC3311ARTA	TRANSISTOR	
Q108	2SC3311ARTA	TRANSISTOR	
Q191	2SC3311ARTA	TRANSISTOR	(E,EB)
Q192	2SC3311ARTA	TRANSISTOR	(E,EB)
Q193	2SC3311ARTA	TRANSISTOR	(E,EB)
Q351	2SD592AQRSTA	TRANSISTOR	
Q352	2SB621ARTA	TRANSISTOR	
Q505	2SD1915FTA	TRANSISTOR	
Q506	2SD1915FTA	TRANSISTOR	
Q551	2SD1915FTA	TRANSISTOR	
Q552	2SD1915FTA	TRANSISTOR	
Q601	2SA1309ARTA	TRANSISTOR	
Q602	2SA1309ARTA	TRANSISTOR	
Q603	2SC3311ARTA	TRANSISTOR	
Q604	2SC3311ARTA	TRANSISTOR	
Q605	2SC3311ARTA	TRANSISTOR	
Q681	2SD1915FTA	TRANSISTOR	
Q682	2SD1915FTA	TRANSISTOR	
Q701	2SD2374PQAU	TRANSISTOR	⚠

Ref No.	Part No.	Part Name & Description	Remarks
Q702	2SD2374PQAU	TRANSISTOR	⚠
Q703	2SC2631QRSTA	TRANSISTOR	
Q704	2SC3311ARTA	TRANSISTOR	
Q705	2SC3311ARTA	TRANSISTOR	
Q706	2SC3940AQSTA	TRANSISTOR	⚠
Q707	2SB1548PQAU	TRANSISTOR	⚠
Q708	2SB1548PQAU	TRANSISTOR	⚠
Q751	UN421FTA	TRANSISTOR	
Q752	2SC3940AQSTA	TRANSISTOR	⚠
Q771	2SA1309ARTA	TRANSISTOR	
Q772	2SA1309ARTA	TRANSISTOR	
Q773	2SB1357ETA	TRANSISTOR	[M] ⚠
Q774	2SA1309ARTA	TRANSISTOR	
Q775	2SA1309ARTA	TRANSISTOR	
Q776	2SA1309ARTA	TRANSISTOR	
Q901	RVTDTC114YST	TRANSISTOR	
Q902	2SA933SSTA	TRANSISTOR	
Q907	RVTDTC114YST	TRANSISTOR	
Q909	2SC3311ARTA	TRANSISTOR	
Q1001	2SC3940AQSTA	TRANSISTOR	⚠
Q1151	2SD1915FTA	TRANSISTOR	
		DIODES	
D101	MTZJ5R1BTA	DIODE	
D102	MA165TA	DIODE	
D351	MTZJ5R6BTA	DIODE	
D352	MTZJ5R6BTA	DIODE	
D401	MTZJ7R5CTA	DIODE	
D601	RVD1SS133TA	DIODE	
D602	RVD1SS133TA	DIODE	
D603	RVD1SS133TA	DIODE	
D604	RVD1SS133TA	DIODE	
D605	RVD1SS133TA	DIODE	
D606	RVD1SS133TA	DIODE	
D607	RVD1SS133TA	DIODE	
D608	RVD1SS133TA	DIODE	
D701	1N5402BM21	DIODE	⚠
D702	1N5402BM21	DIODE	⚠
D703	1N5402BM21	DIODE	⚠

Ref No.	Part No.	Part Name & Description	Remarks
D704	1N5402BM21	DIODE	⚠
D705	MTZJ6R2BTA	DIODE	
D706	MTZJ6R2BTA	DIODE	⚠
D707	MTZJ24DTA	DIODE	⚠
D708	MTZJ15CTA	DIODE	⚠
D751	1SR35200TB	DIODE	⚠
D752	1SR35200TB	DIODE	⚠
D753	1SR35200TB	DIODE	⚠
D754	1SR35200TB	DIODE	⚠
D755	RVD1SS133TA	DIODE	
D756	MTZJ6R8BTA	DIODE	⚠
D771	RVD1SS133TA	DIODE	
D772	MTZJ6R8BTA	DIODE	
D773	RVD1SS133TA	DIODE	
D901	1SS291TA	DIODE	
D903	MTZJ4R7BTA	DIODE	
D905	RVD1SS133TA	DIODE	(E,EB)
D908	RVD1SS133TA	DIODE	
D921	RVD1SS133TA	DIODE	
D923	RVD1SS133TA	DIODE	
D924	MTZJ3R9ATA	DIODE	
D925	RVD1SS133TA	DIODE	
D929	LN846RPH	DIODE	
D1001	MTZJ10CTA	DIODE	⚠
		VARIABLE RESISTORS	
VR501	RRV24B02B16A	VR, VOLUME	[MAV]
VR502	EVJ02QF01G15	VR, BALANCE	
VR511	EVJYA1F01C15	VR, BASS	
VR512	EVJYA1F01C15	VR, TREBLE	
		SWITCHES	
S946	EVQ21405R	SW, POWER	
S947	EVQ21405R	SW, PHONO	
S948	EVQ21405R	SW,MUTING	
S950	EVQ21405R	SW, FM AUTO/MONO	
S951	EVQ21405R	SW, BAND	
S952	EVQ21405R	SW, TUNING DOWN	
S953	EVQ21405R	SW, TUNING UP	
S954	EVQ21405R	SW, MEMORY	
S955	EVQ21405R	SW, SLEEP	
S956	EVQ21405R	SW, PRESET DOWN	
S957	EVQ21405R	SW, PRESET UP	
S960	EVQ21405R	SW, TUNER	
S961	EVQ21405R	SW, CD	
S962	EVQ21405R	SW, TAPE	
S963	EVQ21405R	SW, TV/VCR2	

Ref No.	Part No.	Part Name & Description	Remarks
S964	EVQ21405R	SW, VCR1	
S970	EVQ21405R	SW,SEARCH	
S971	EVQ21405R	SW,EON	
S972	EVQ21405R	SW,PTY SEL ∧	
S973	EVQ21405R	SW,PTY SEL ∨	
S974	EVQ21405R	SW,DISPLAY MODE	
S980	EVQ21405R	SW, SPEAKER	
S983	EVQ21405R	SW, SURROUND	
S984	EVQ21405R	SW, SW, 3 STEREO	
S985	EVQ21405R	SW, CENTER MODE	
		CONNECTORS	
CN101	RJU057W007	CONNECTOR (7 P)	
CN102	RJU057W007	CONNECTOR (7 P)	
CN401	RJU100W07	CONNECTOR (7 P)	[MAV]
CN402	RJU100W07	CONNECTOR (7 P)	[MAV]
CN501	RJU100W07	CONNECTOR (7 P)	[MAV]
CN502	RJU100W04	CONNECTOR (4 P)	[MAV]
CN751	SJS305-1	CONNECTOR (3 P)	
CN752	RJS1A6603	CONNECTOR (3P)	
CN771	SJT3213	CONNECTOR (2 P)	
CN901	RJU003K008M1	CONNECTOR (8 P)	
CN902	RJU003K008M1	CONNECTOR (8 P)	
CN903	RJU003K008M1	CONNECTOR (8 P)	
CN904	RJU003K008M1	CONNECTOR (8 P)	
CN905	RJU003K008M1	CONNECTOR (8 P)	
CP101	RJT057W007-1	CONNECTOR (7 P)	
CP102	RJT057W007-1	CONNECTOR (7 P)	
CP401	RJT100W07	CONNECTOR (7 P)	[MAV]
CP402	RJT100W07	CONNECTOR (7 P)	[MAV]
CP501	RJT100W07	CONNECTOR (7 P)	[MAV]
CP502	RJT100W04	CONNECTOR (4 P)	[MAV]
CP901	RJT003K008M1	CONNECTOR (8 P)	
CP902	RJT003K008M1	CONNECTOR (8 P)	
CP903	RJT003K008M1	CONNECTOR (8 P)	
CP904	RJT003K008M1	CONNECTOR (8 P)	
CP905	RJT003K008M1	CONNECTOR (8 P)	
		COILS,TRANSFORMERS	
L101	ELESNR68MA	CHOKE COIL	(E,EB)
L101	ELESN1R0MA	CHOKE COIL	(EG)
L103	ELEXTR47MA9	CHOKE COIL	
L105	RLQZB822KT-D	TAPING COIL	
L106	RLQZB822KT-D	TAPING COIL	
L151	SLM1B10-1M	COIL	
L191	ELESNR68MA	CHOKE COIL	(E,EB)
L191	ELESNR56MA	CHOKE COIL	(EG)

Ref No.	Part No.	Part Name & Description	Remarks
L501	RLQZP1R0KT-Y	AXIAL COIL	
L502	RLQZP1R0KT-Y	AXIAL COIL	
L601	RLQYR73M	CHOKE COIL	
L602	RLQYR73M	CHOKE COIL	
L651	RLQYR73M	CHOKE COIL	
L652	RLQYR73M	CHOKE COIL	
L701	SLQZ650MH49	AC LINE COIL	
L751	ELESN101KA	CHOKE COIL	
L901	RLQB101KTA-Y	CHOKE COIL	
L902	RLQZP101KT-Y	AXIAL COIL	
L1051	ELESN101KA	CHOKE COIL	
T701	RTP1N5B023-V	POWER TRANSFORMER	[MAV] ⚠
T751	RTP115E003-V	POWER TRANSFORMER	⚠
		COMP. COMBINATION	
Z101	RLA6Z005M-T	AM ANT/OSC	(E,EB)
Z101	RLA2Z002M-T	AM ANT. COIL	(EG)
Z102	RLI2Z006M-T	AM IFT	
Z120	ENV17290G1R	FM TUNER PACK	
Z751	ERZV10V511CS	ZNR	⚠
Z891	RCDSPS4242N	REMOTE SENSOR	
		CERAMIC FILTERS	
CF201	RLFFETNGD01L	CERAMIC FILTER	
CF202	RLFFETMGD01L	CERAMIC FILTER	
CF901	RVBCST4R00MT	CERAMIC OSCILLATOR	
CF902	RSXZ456KM07M	CERAMIC OSCILLATOR	
CF1051	EF0EC8004T4	CERAMIC OSCILLATOR	
		OSCILLATORS	
X101	RSXZ456KM07M	CERAMIC OSCILLATOR	
X102	RLFDGTD01I	FM REZONATOR	
X103	SVQ49U722T-S	CRYSTAL OSCILLATOR	
		DISPLAY TUBE	
FL901	RSL0213-F	FL DISPLAY	[MAV]
		RELAYS	
RL601	RSY0013M-0	24V RELAY	
RL602	RSY0013M-0	24V RELAY	
RL751	RSY0019M-0	12V TV-5 RELAY	⚠

Ref No.	Part No.	Part Name & Description	Remarks
		EARTH TERMINAL	
E401	SNE1004-2	EARTH TERMINAL	
E601	SNE1004-2	EARTH TERMINAL	
		FUSES	
F1	XBA2C16TB0	FUSE	⚠
		FUSE HOLDERS	
FC701	RJR0169T	FUSE HOLDER	[M]
FC702	RJR0169T	FUSE HOLDER	[M]
		JACKS	
JK101	RJH4202	JK, ANT TERMINAL	

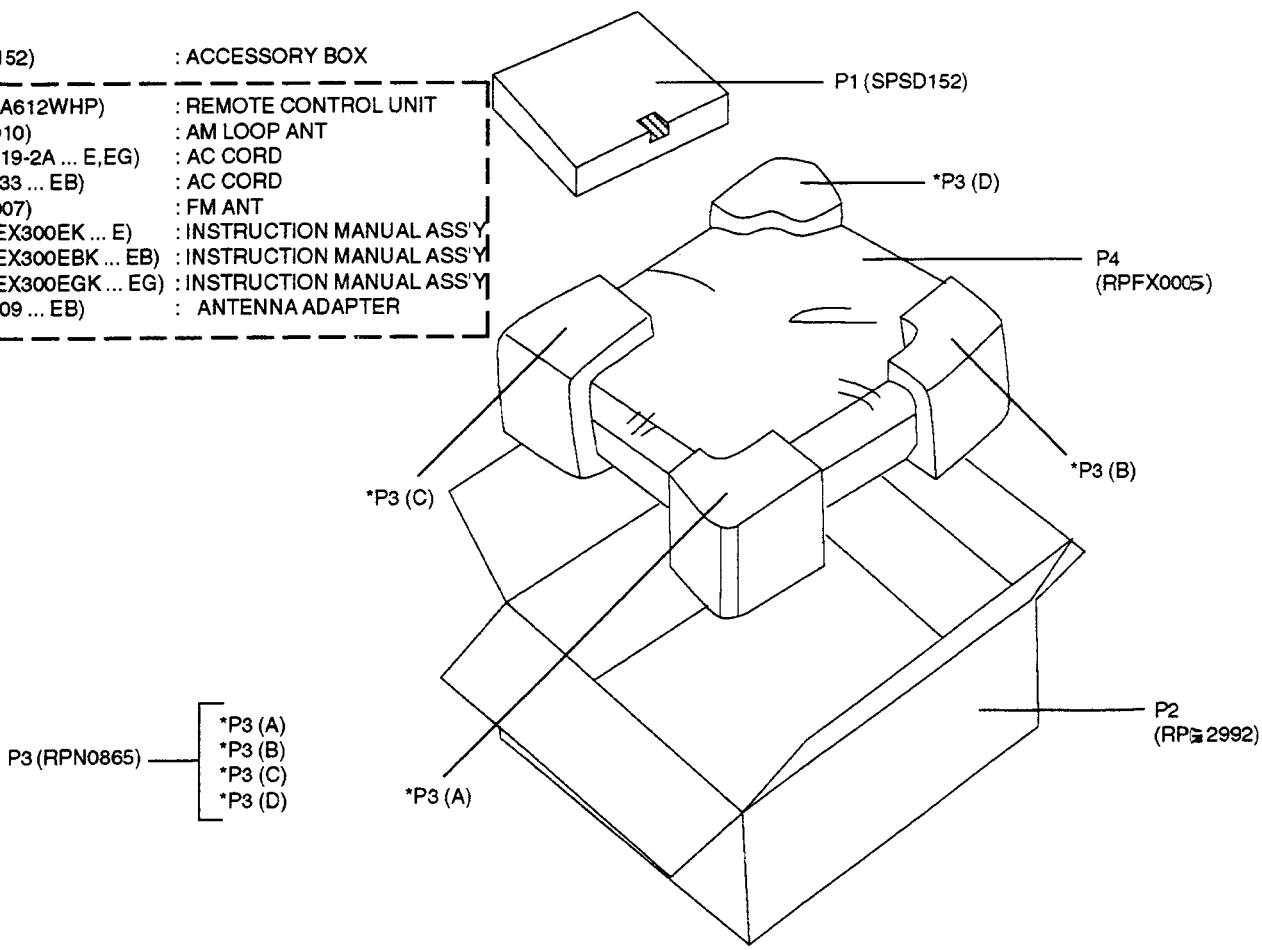
Ref No.	Part No.	Part Name & Description	Remarks
JK351	SJF3069-3N	JK, RCA PIN	
JK401	SJF3068-7N	JK, PHONO	
JK402	SJF3069N	JK, CD	
JK403	SJF3069N	JK, TAPE/DCC	
JK404	SJF3069N	JK, VCR2 IN	
JK405	SJFD7	JK, FM MULTI OUT	
JK601	RJH5601	JK, SP. TERMINAL	
JK602	RJR0054	JK, SP. TERMINAL	
JK791	SJS9236	JK, AC INLET	⚠
HP601	RJJ63TS01	HEADPHONES JACK	
		PACKING MATERIALS	
P1	SPSD152	ACCESSORY BOX	
P2	RPG2992	PACKING CASE	[MAV]
P3	RPN0865	POLYFOAM	[M]
P4	RPFX0005	MIRAMAT SHEET	[M]

Ref No.	Part No.	Part Name & Description	Remarks
		ACCESSORIES	
A1	RAK-SA612WHP	REMOTE CONTROL	[MAV]
A1-1	RKK0020	BATTY COVER (R C)	
A2	RSA0010	AM LOOP ANT	
A3	RJA0019-2A	AC CORD (SF)	(E,EG) ⚠
A3	VJA0733	AC-CORD [VRD] (SF)	(EB) ⚠
A4	RSA0007	FM ANTENA	
A5	RFKSEX300EK	INSTR MNL ASS'Y	[MAV](E)
A5	RFKSEX300EBK	INSTR MNL ASS'Y	[MAV](EB)
A5	RFKSEX300EGK	INSTR MNL ASS'Y	[MAV](EG)
A6	SJP9009	ANT ADAPTER	(EB) ⚠

■ Packaging

P1 (SPSD152) : ACCESSORY BOX

- A1 (RAK-SA612WHP) : REMOTE CONTROL UNIT
- A2 (RSA0010) : AM LOOP ANT
- A3 (RJA0019-2A ... E,EG) : AC CORD
- A3 (VJA0733 ... EB) : AC CORD
- A4 (RSA0007) : FM ANT
- A5 (RFKSEX300EK ... E) : INSTRUCTION MANUAL ASS'Y
- A5 (RFKSEX300EBK ... EB) : INSTRUCTION MANUAL ASS'Y
- A5 (RFKSEX300EGK ... EG) : INSTRUCTION MANUAL ASS'Y
- A6 (SJP9009 ... EB) : ANTENNA ADAPTER



■ Resistors & Capacitors

Notes : • Important safety notice:
Components identified by ⚠ mark have special characteristics important for safety.
Furthermore, special parts which have purposes of fire-retardant (resistors), high-quality sound (capacitors), low-noise (resistors), etc. are used.
When replacing any of components, be sure to use only manufacturer's specified parts shown in the parts list.
- Capacitor values are in microfarad (μF) unless specified otherwise, P=Pico-farads (pF) F=Farads (F)
- Resistors values are in ohms, unless specified otherwise, 1K=1,000(OHM), 1M=1,000K(OHM)
- [M] in Remarks column indicates parts that are supplied by **MESA**.
- [MAV] in Remarks column indicates parts that are supplied by **MAV**.

Ref No.	Part No.	Values & Remarks
	RESISTORS	
R103	ERDS2TJ101T	100 1/4W
R104	ERDS2TJ102T	1K 1/4W
R105	ERDS2TJ471T	470 1/4W
R106	ERDS2TJ224T	220K 1/4W
R107	ERDS2TJ471T	470 1/4W
R110	ERDS2TJ102T	1K 1/4W
R112	ERDS2TJ104T	100K 1/4W
R113	ERDS2TJ103T	10K 1/4W
R114	ERDS2TJ562T	5.6K 1/4W
R115	ERDS2TJ561T	560 1/4W
R116	ERDS2TJ102T	1K 1/4W
R117	ERDS2TJ473T	47K 1/4W
R118	ERDS2TJ562T	5.6K 1/4W
R119	ERDS2TJ183T	18K 1/4W
R120	ERDS2TJ473T	47K 1/4W
R121	ERDS2TJ332T	3.3K 1/4W
R122	ERDS2TJ272T	2.7K 1/4W
R124	ERDS2TJ271T	270 1/4W
R125	ERDS2TJ472T	4.7K 1/4W
R126	ERDS2TJ472T	4.7K 1/4W
R127	ERDS2TJ103T	10K 1/4W
R128	ERDS2TJ820T	82 1/4W
R129	ERDS2TJ473T	47K 1/4W
R130	ERDS2TJ102T	1K 1/4W
R131	ERDS2TJ102T	1K 1/4W
R132	ERDS2TJ103T	10K 1/4W
R133	ERDS2TJ102T	1K 1/4W
R134	ERDS2TJ102T	1K 1/4W
R135	ERDS2TJ102T	1K 1/4W
R136	ERDS2TJ102T	1K 1/4W
R137	ERDS2TJ102T	1K 1/4W
R139	ERDS2TJ272T	2.7K 1/4W
R140	ERDS2TJ272T	2.7K 1/4W
R141	ERDS2TJ102T	1K 1/4W
R142	ERDS2TJ102T	1K 1/4W
R143	ERDS2TJ222T	2.2K 1/4W
R144	ERDS2TJ222T	2.2K 1/4W
R145	ERDS2TJ102T	1K 1/4W(E,EB)
R145	ERDS2TJ561T	560 1/4W(EG)
R146	ERDS2TJ102T	1K 1/4W(E,EB)
R146	ERDS2TJ561T	560 1/4W(EG)
R147	ERDS2TJ474T	470K 1/4W
R148	ERDS2TJ474T	470K 1/4W
R149	ERDS2TJ680T	68 1/4W
R171	ERDS2TJ102T	1K 1/4W
R172	ERDS2TJ102T	1K 1/4W
R173	ERDS2TJ471T	470 1/4W
R175	ERDS2TJ102T	1K 1/4W
R176	ERDS2TJ391T	390 1/4W
R181	ERDS2TJ332T	3.3K 1/4W
R191	ERDS2TJ103T	10K 1/4W
R192	ERDS2TJ122T	1.2K 1/4W
R193	ERDS2TJ182T	1.8K 1/4W
R194	ERDS2TJ122T	1.2K 1/4W
R195	ERDS2TJ222T	2.2K 1/4W
R301	ERDS2TJ680T	68 1/4W
R302	ERDS2TJ680T	68 1/4W
R359	ERDS2TJ750T	75 1/4W
R362	ERDS2TJ750T	75 1/4W
R367	ERDS2TJ102T	1K 1/4W
R368	ERDS2TJ102T	1K 1/4W
R369	ERDS2TJ182T	1.8K 1/4W
R370	ERDS2TJ182T	1.8K 1/4W
R371	ERD2FCVG220T	22 1/4W
R372	ERD2FCVG220T	22 1/4W
R373	ERDS2TJ103T	10K 1/4W
R374	ERDS2TJ103T	10K 1/4W
R401	ERDS2TJ102T	1K 1/4W
R402	ERDS2TJ102T	1K 1/4W
R405	ERDS2TJ102T	1K 1/4W
R406	ERDS2TJ102T	1K 1/4W
R407	ERDS2TJ102T	1K 1/4W
R408	ERDS2TJ102T	1K 1/4W
R409	ERDS2TJ102T	1K 1/4W
R410	ERDS2TJ102T	1K 1/4W
R411	ERDS2TJ102T	1K 1/4W
R412	ERDS2TJ102T	1K 1/4W
R413	ERDS2TJ102T	1K 1/4W
R414	ERDS2TJ102T	1K 1/4W
R415	ERDS2TJ102T	1K 1/4W
R416	ERDS2TJ102T	1K 1/4W
R417	ERDS2TJ473T	47K 1/4W
R418	ERDS2TJ473T	47K 1/4W
R419	ERDS2TJ104T	100K 1/4W
R420	ERDS2TJ104T	100K 1/4W
R421	ERDS2TJ104T	100K 1/4W
R422	ERDS2TJ104T	100K 1/4W
R423	ERDS2TJ102T	1K 1/4W
R424	ERDS2TJ102T	1K 1/4W
R425	ERDS2TJ103T	10K 1/4W
R426	ERDS2TJ103T	10K 1/4W
R427	ERDS2TJ103T	10K 1/4W
R440	ERDS1FVJ820T	82 1/2W ⚠
R441	ERDS2TJ473T	47K 1/4W
R442	ERDS2TJ473T	47K 1/4W
R443	ERDS2TJ330T	33 1/4W
R451	ERDS2TJ224T	220K 1/4W
R452	ERDS2TJ224T	220K 1/4W
R453	ERDS2TJ391T	390 1/4W
R454	ERDS2TJ391T	390 1/4W
R455	ERDS2TJ563T	56K 1/4W
R456	ERDS2TJ563T	56K 1/4W
R457	ERDS2TJ271T	270 1/4W
R458	ERDS2TJ271T	270 1/4W
R459	ERDS2TJ680T	68 1/4W
R460	ERDS2TJ680T	68 1/4W
R461	ERDS2TJ184T	180K 1/4W
R462	ERDS2TJ184T	180K 1/4W
R463	ERDS2TJ123T	12K 1/4W
R464	ERDS2TJ123T	12K 1/4W
R465	ERDS2TJ563T	56K 1/4W
R466	ERDS2TJ563T	56K 1/4W
R467	ERDS2TJ102T	1K 1/4W
R468	ERDS2TJ102T	1K 1/4W
R469	ERDS2TJ102T	1K 1/4W
R470	ERDS2TJ102T	1K 1/4W
R501	ERDS2TJ222T	2.2K 1/4W
R502	ERDS2TJ222T	2.2K 1/4W
R508	ERDS1FVJ2R2T	2.2 1/2W ⚠
R511	ERDS2TJ471T	470 1/4W
R512	ERDS2TJ471T	470 1/4W
R513	ERDS2TJ474T	470K 1/4W
R514	ERDS2TJ474T	470K 1/4W
R515	ERDS2TJ474T	470K 1/4W
R516	ERDS2TJ474T	470K 1/4W
R517	ERDS2TJ332T	3.3K 1/4W
R518	ERDS2TJ332T	3.3K 1/4W
R519	ERDS2TJ222T	2.2K 1/4W
R520	ERDS2TJ222T	2.2K 1/4W
R521	ERDS2TJ223T	22K 1/4W
R522	ERDS2TJ223T	22K 1/4W
R523	ERDS2TJ392T	3.9K 1/4W
R524	ERDS2TJ392T	3.9K 1/4W
R525	ERDS2TJ222T	2.2K 1/4W
R526	ERDS2TJ222T	2.2K 1/4W
R527	ERDS2TJ122T	1.2K 1/4W
R528	ERDS2TJ122T	1.2K 1/4W
R529	ERDS2TJ273T	27K 1/4W
R530	ERDS2TJ273T	27K 1/4W
R531	ERDS2TJ332T	3.3K 1/4W
R532	ERDS2TJ332T	3.3K 1/4W
R533	ERDS2TJ103T	10K 1/4W
R534	ERDS2TJ103T	10K 1/4W
R543	ERDS2TJ102T	1K 1/4W
R544	ERDS2TJ102T	1K 1/4W
R545	ERDS2TJ824T	820K 1/4W
R546	ERDS2TJ102T	1K 1/4W
R551	ERDS2TJ102T	1K 1/4W
R552	ERDS2TJ102T	1K 1/4W
R553	ERDS2TJ104T	100K 1/4W
R554	ERDS2TJ104T	100K 1/4W
R555	ERDS2TJ223T	22K 1/4W
R556	ERDS2TJ223T	22K 1/4W
R557	ERDS2TJ681T	680 1/4W
R558	ERDS2TJ102T	1K 1/4W
R559	ERDS2TJ104T	100K 1/4W
R560	ERDS2TJ104T	100K 1/4W
R561	ERDS2TJ822T	8.2K 1/4W
R562	ERDS2TJ822T	8.2K 1/4W
R563	ERDS2TJ332T	3.3K 1/4W
R565	ERDS2TJ102T	1K 1/4W
R566	ERDS2TJ102T	1K 1/4W
R595	ERDS2TJ122T	1.2K 1/4W
R596	ERDS2TJ122T	1.2K 1/4W
R601	ERDS2TJ102T	1K 1/4W

Ref No.	Part No.	Values & Remarks
R602	ERDS2TJ102T	1K 1/4W
R603	ERDS2TJ563T	56K 1/4W
R604	ERDS2TJ563T	56K 1/4W
R605	ERDS2TJ182T	1.8K 1/4W
R606	ERDS2TJ182T	1.8K 1/4W
R607	ERDS2TJ563T	56K 1/4W
R608	ERDS2TJ563T	56K 1/4W
R609	ERDS2TJ100T	10 1/4W
R610	ERDS2TJ100T	10 1/4W
R611	ERDS1FVJ100T	10 1/2W ⚠
R612	ERDS1FVJ100T	10 1/2W ⚠
R618	ERDS2TJ223T	22K 1/4W
R619	ERDS2TJ224T	220K 1/4W
R620	ERD2FCVG470T	47 1/4W
R623	ERDS2TJ684T	680K 1/4W
R628	ERDS2TJ223T	22K 1/4W
R631	ERDS2TJ333T	33K 1/4W
R632	ERDS2TJ333T	33K 1/4W
R633	ERDS2TJ102T	1K 1/4W
R634	ERDS2TJ102T	1K 1/4W
R637	ERG1SJ101E	100 1W ⚠
R638	ERG1SJ101E	100 1W ⚠
R639	ERG1SJ101E	100 1W ⚠
R640	ERG1SJ101E	100 1W ⚠
R644	ERDS2TJ124T	120K 1/4W
R645	ERDS2TJ221T	220 1/4W
R646	ERDS2TJ221T	220 1/4W
R647	ERDS2TJ221T	220 1/4W
R648	ERDS2TJ221T	220 1/4W
R651	ERDS2TJ102T	1K 1/4W
R652	ERDS2TJ102T	1K 1/4W
R653	ERDS2TJ563T	56K 1/4W
R654	ERDS2TJ563T	56K 1/4W
R655	ERDS2TJ182T	1.8K 1/4W
R656	ERDS2TJ182T	1.8K 1/4W
R657	ERDS2TJ563T	56K 1/4W
R658	ERDS2TJ563T	56K 1/4W
R659	ERDS2TJ100T	10 1/4W
R660	ERDS2TJ100T	10 1/4W
R661	ERDS1FVJ100T	10 1/2W ⚠
R662	ERDS1FVJ100T	10 1/2W ⚠
R665	ERDS2TJ124T	120K 1/4W
R666	ERDS2TJ104T	100K 1/4W
R670	ERD2FCVG470T	47 1/4W
R671	ERDS2TJ102T	1K 1/4W
R672	ERDS2TJ102T	1K 1/4W
R673	ERDS2TJ684T	680K 1/4W
R674	ERDS2TJ473T	47K 1/4W

Ref No.	Part No.	Values & Remarks
R675	ERDS2TJ104T	100K 1/4W
R676	ERDS2TJ184T	180K 1/4W
R677	ERDS2TJ124T	120K 1/4W
R678	ERDS2TJ154T	150K 1/4W
R681	ERDS2TJ270T	27 1/4W
R682	ERDS2TJ270T	27 1/4W
R683	ERDS2TJ270T	27 1/4W
R684	ERDS2TJ270T	27 1/4W
R685	ERDS2TJ270T	27 1/4W
R686	ERDS2TJ270T	27 1/4W
R687	ERDS2TJ270T	27 1/4W
R688	ERDS2TJ270T	27 1/4W
R689	ERDS2TJ270T	27 1/4W
R690	ERDS2TJ270T	27 1/4W
R691	ERDS2TJ270T	27 1/4W
R692	ERDS2TJ270T	27 1/4W
R693	ERDS2TJ270T	27 1/4W
R694	ERDS2TJ270T	27 1/4W
R695	ERDS2TJ102T	1K 1/4W
R696	ERDS2TJ102T	1K 1/4W
R699	ERDS2TJ332T	3.3K 1/4W
R701	ERDS2TJ1R2T	1.2 1/4W
R702	ERDS2TJ1R2T	1.2 1/4W
R703	ERD2FCVJ4R7T	4.7 1/4W
R704	ERDS1FVJ4R7T	4.7 1/2W ⚠
R705	ERDS2TJ472T	4.7K 1/4W
R706	ERDS2TJ102T	1K 1/4W
R707	ERD2FCVJ4R7T	4.7 1/4W
R709	ERD25FVJ221T	220 1/4W
R710	ERDS2TJ153T	15K 1/4W
R711	ERDS2TJ153T	15K 1/4W
R712	ERDS2TJ472T	4.7K 1/4W
R713	ERDS2TJ1R5T	1.5 1/4W
R714	ERDS2TJ1R5T	1.5 1/4W
R715	ERDS2TJ752T	7.5K 1/4W
R716	ERDS2TJ682T	6.8K 1/4W
R717	ERD2FCVJ6R8T	6.8 1/4W
R718	ERDS2TJ182T	1.8K 1/4W
R720	ERD2FCVJ4R7T	4.7 1/4W
R721	ERD2FCVJ4R7T	4.7 1/4W
R722	ERD2FCVJ6R8T	6.8 1/4W
R723	ERDS2TJ332T	3.3K 1/4W
R724	ERDS2TJ332T	3.3K 1/4W
R725	ERDS2TJ152T	1.5K 1/4W
R727	ERD25FVJ180T	18 1/4W
R754	ERDS2TJ102T	1K 1/4W
R772	ERDS2TJ104T	100K 1/4W
R773	ERDS2TJ103T	10K 1/4W

Ref No.	Part No.	Values & Remarks
R774	ERDS2TJ223T	22K 1/4W
R775	ERDS2TJ332T	3.3K 1/4W
R777	ERDS2TJ220T	22 1/4W
R778	ERDS2TJ222T	2.2K 1/4W
R779	ERDS2TJ103T	10K 1/4W
R780	ERDS2TJ473T	47K 1/4W
R781	ERDS2TJ473T	47K 1/4W
R782	ERDS2TJ153T	15K 1/4W
R783	ERDS2TJ103T	10K 1/4W
R784	ERDS2TJ335T	3.3M 1/4W
R791	ERDS2TJ223T	22K 1/4W
R792	ERDS2TJ223T	22K 1/4W
R795	ERDS2TJ223T	22K 1/4W
R796	ERDS2TJ223T	22K 1/4W
R797	ERDS2TJ682T	6.8K 1/4W
R901	ERDS2TJ102T	1K 1/4W
R906	ERDS2TJ104T	100K 1/4W
R907	ERDS2TJ104T	100K 1/4W
R908	ERDS2TJ104T	100K 1/4W
R909	ERDS2TJ104T	100K 1/4W
R910	ERDS2TJ102T	1K 1/4W
R911	ERDS2TJ104T	100K 1/4W
R912	ERDS2TJ103T	10K 1/4W
R914	ERDS2TJ104T	100K 1/4W
R917	ERDS2TJ103T	10K 1/4W
R920	ERDS2TJ271T	270 1/4W
R921	ERDS2TJ121T	120 1/4W
R922	ERDS2TJ472T	4.7K 1/4W
R924	ERDS2TJ333T	33K 1/4W
R927	ERDS2TJ181T	180 1/4W
R929	ERDS2TJ101T	100 1/4W
R930	ERDS2TJ101T	100 1/4W
R941	ERDS2TJ472T	4.7K 1/4W
R946	ERDS2TJ103T	10K 1/4W
R947	ERDS2TJ103T	10K 1/4W
R948	ERDS2TJ103T	10K 1/4W
R949	ERDS2TJ103T	10K 1/4W
R950	ERDS2TJ102T	1K 1/4W
R951	ERDS2TJ122T	1.2K 1/4W
R952	ERDS2TJ152T	1.5K 1/4W
R953	ERDS2TJ182T	1.8K 1/4W
R954	ERDS2TJ222T	2.2K 1/4W
R955	ERDS2TJ332T	3.3K 1/4W
R956	ERDS2TJ472T	4.7K 1/4W
R957	ERDS2TJ682T	6.8K 1/4W
R960	ERDS2TJ102T	1K 1/4W
R961	ERDS2TJ122T	1.2K 1/4W
R962	ERDS2TJ152T	1.5K 1/4W

Ref No.	Part No.	Values & Remarks
R963	ERDS2TJ182T	1.8K 1/4W
R964	ERDS2TJ222T	2.2K 1/4W
R970	ERDS2TJ102T	1K 1/4W
R971	ERDS2TJ122T	1.2K 1/4W
R972	ERDS2TJ152T	1.5K 1/4W
R973	ERDS2TJ182T	1.8K 1/4W
R974	ERDS2TJ222T	2.2K 1/4W
R980	ERDS2TJ102T	1K 1/4W
R981	ERDS2TJ122T	1.2K 1/4W
R982	ERDS2TJ152T	1.5K 1/4W
R983	ERDS2TJ182T	1.8K 1/4W
R984	ERDS2TJ222T	2.2K 1/4W
R985	ERDS2TJ822T	8.2K 1/4W
R1001	ERDS2TJ223T	22K 1/4W
R1002	ERDS2TJ223T	22K 1/4W
R1003	ERDS2TJ102T	1K 1/4W
R1004	ERDS2TJ102T	1K 1/4W
R1005	ERDS2TJ203T	20K 1/4W
R1007	ERDS2TJ473T	47K 1/4W
R1008	ERDS2TJ473T	47K 1/4W
R1009	ERDS2TJ332T	3.3K 1/4W
R1010	ERDS2TJ332T	3.3K 1/4W
R1011	ERDS2TJ332T	3.3K 1/4W
R1012	ERDS2TJ102T	1K 1/4W
R1013	ERDS2TJ102T	1K 1/4W
R1014	ERDS2TJ102T	1K 1/4W
R1015	ERDS2TJ102T	1K 1/4W
R1016	ERD2FCVJ6R8T	6.8 1/4W
R1051	ERDS2TJ393T	39K 1/4W
R1052	ERDS2TJ105T	1M 1/4W
R1053	ERDS2TJ102T	1K 1/4W
R1055	ERDS2TJ473T	47K 1/4W
R1056	ERDS2TJ562T	5.6K 1/4W
R1061	ERDS2TJ222T	2.2K 1/4W
R1151	ERDS2TJ473T	47K 1/4W
R1152	ERDS2TJ473T	47K 1/4W
R1153	ERDS2TJ273T	27K 1/4W
R1154	ERDS2TJ333T	33K 1/4W
R1155	ERDS2TJ393T	39K 1/4W
R1156	ERDS2TJ393T	39K 1/4W
R1157	ERDS2TJ222T	2.2K 1/4W
R1158	ERDS2TJ104T	100K 1/4W
R1159	ERDS2TJ103T	10K 1/4W
R1160	ERDS2TJ102T	1K 1/4W
	CAPACITORS	
C1	ECKR1H473ZF5	0.047 50V

Ref No.	Part No.	Values & Remarks
C2	ECKR1H473ZF5	0.047 50V
C101	ECBT1C103NS5	0.01 16V
C103	ECBT1C103NS5	0.01 16V
C104	ECBT1H102KB5	1000P 50V
C105	ECBT1H470J5	47P 50V
C106	ECBT1C103NS5	0.01 16V
C107	ECBT1H473ZF5	0.047 50V
C108	ECBT1H100JC5	10P 50V
C108	ECBT1H8R2KC5	8.2P 50V EG
C109	ECBT1C103NS5	0.01 16V
C110	ECBT1C103NS5	0.01 16V
C111	ECEA1EKA4R7B	4.7 25V
C112	ECBT1C103NS5	0.01 16V
C113	ECBT1H102KB5	1000P 50V
C114	ECEA1HKA3R3B	3.3 50V
C115	ECEA1EKA4R7B	4.7 25V
C116	ECBT1C822MS5	8200P 16V
C117	ECQB1H471JF3	470P 50V
C118	ECQB1H103JF3	0.01 50V
C119	ECQB1H103JF3	0.01 50V
C120	ECEA1HKA010B	1 50V
C121	ECEA1HKA010B	1 50V
C122	ECEA1HKA2R2B	2.2 50V
C123	ECEA1HKA010B	1 50V
C124	ECBT1H102KB5	1000P 50V
C125	ECBT1H150JC5	15P 50V
C126	ECBT1H104ZF5	0.1 50V
C127	ECEA1CKA220B	22 16V
C128	ECBT1C103NS5	0.01 16V
C129	ECEA0JKA101B	100 6.3V
C130	ECEA0JKA101B	100 6.3V
C131	ECBT1C103NS5	0.01 16V
C132	ECBT1H102KB5	1000P 50V
C133	ECBT1H150JC5	15P 50V
C134	ECBT1H180JC5	18P 50V
C135	ECBT1C103MS5	0.01 16V
C136	ECBT1C103MS5	0.01 16V
C137	ECBT1H561KB5	560P 50V
C138	ECBT1H561KB5	560P 50V
C139	ECQB1H682JF3	6800P 50V
C140	ECQB1H682JF3	6800P 50V
C141	ECEA1HKA010B	1 50V
C142	ECEA1HKA010B	1 50V
C143	ECEA1HKA010B	1 50V
C144	ECEA1HKA010B	1 50V
C145	ECBT1H220JC5	22P 50V
C146	ECBT1H331KB5	330P 50V
C147	ECBT1H102KB5	1000P 50V

Ref No.	Part No.	Values & Remarks
C148	ECBT1C103NS5	0.01 16V
C149	ECBT1C103NS5	0.01 16V
C150	ECBT1H104ZF5	0.1 50V
C172	ECBT1H331KB5	330P 50V
C173	ECEA1CKA220B	22 16V
C174	ECEA1CKA101B	100 16V
C175	ECBT1C103NS5	0.01 16V
C176	ECBT1C103NS5	0.01 16V
C181	ECBT1H471KB5	470P 50V
C196	ECBT1H102KB5	1000P 50V
C330	ECBT1H470J5	47P 50V
C331	ECBT1H470J5	47P 50V
C351	ECEA0JU101B	100 6.3V
C352	ECEA0JU101B	100 6.3V
C354	ECBT1E103ZF5	0.01 25V
C355	ECBT1E103ZF5	0.01 25V
C357	ECBT1E103ZF5	0.01 25V
C358	ECBT1E103ZF5	0.01 25V
C373	ECEA1CU470B	47 16V
C374	ECEA1CU470B	47 16V
C401	ECEA1VU4R7B	4.7 10V
C402	ECEA1VU4R7B	4.7 10V
C403	ECBT1E103ZF5	0.01 25V
C404	ECBT1E103ZF5	0.01 25V
C405	ECBT1H101KB5	100P 50V
C406	ECBT1H101KB5	100P 50V
C409	ECEA1CU220B	22 16V
C410	ECEA1CU220B	22 16V
C411	ECBT1H101KB5	100P 50V
C412	ECBT1H101KB5	100P 50V
C413	ECEA1CKA100B	10 16V
C414	ECEA1CKA100B	10 16V
C415	ECBT1E103ZF5	0.01 25V
C416	ECBT1E103ZF5	0.01 25V
C417	ECBT1H101KB5	100P 50V
C418	ECBT1H101KB5	100P 50V
C419	ECBT1H331KB5	330P 50V
C420	ECBT1H331KB5	330P 50V
C421	ECBT1H331KB5	330P 50V
C422	ECBT1H331KB5	330P 50V
C423	ECBT1H101KB5	100P 50V
C424	ECBT1H101KB5	100P 50V
C425	ECBT1H101KB5	100P 50V
C426	ECBT1H101KB5	100P 50V
C427	ECBT1H221KB5	220P 50V
C428	ECBT1H221KB5	220P 50V
C431	ECEA1CKA100B	10 16V
C432	ECEA1CKA100B	10 16V

Ref No.	Part No.	Values & Remarks
C440	ECBT1E103ZF5	0.01 25V
C451	ECEA1VU4R7B	4.7 10V
C452	ECEA1VU4R7B	4.7 10V
C453	ECBT1H100JC5	10P 50V
C454	ECBT1H100JC5	10P 50V
C455	ECBT1H102KB5	1000P 50V
C456	ECBT1H102KB5	1000P 50V
C457	ECEA1AU330B	33 10V
C458	ECEA1AU330B	33 10V
C459	ECFR1E223KR	0.022 25V
C460	ECFR1E223KR	0.022 25V
C461	ECFR1E682KR	6800P 25V
C462	ECFR1E682KR	6800P 25V
C463	ECEA1VU4R7B	4.7 10V
C464	ECEA1VU4R7B	4.7 10V
C465	ECBT1E103ZF5	0.01 25V
C466	ECBT1E103ZF5	0.01 25V
C469	ECBT1H181KB5	180P 50V
C470	ECBT1H181KB5	180P 50V
C503	ECEA0JKA101B	100 6.3V
C504	ECEA0JKA101B	100 6.3V
C505	ECFR1C104MR	0.1 16V
C506	ECFR1C104MR	0.1 16V
C511	ECEA1HKA3R3B	3.3 50V
C512	ECEA1HKA3R3B	3.3 50V
C513	ECBT1H150J5	15P 50V
C514	ECBT1H150J5	15P 50V
C515	ECBT1H221KB5	220P 50V
C516	ECBT1H221KB5	220P 50V
C517	ECBT1H330J5	33P 50V
C518	ECBT1H330J5	33P 50V
C519	ECEA1VKA4R7B	4.7 10V
C520	ECEA1VKA4R7B	4.7 10V
C521	ECEA1VKA4R7B	4.7 10V
C522	ECEA1VKA4R7B	4.7 10V
C523	ECFR1E123KR	0.012 25V
C524	ECFR1E123KR	0.012 25V
C525	ECQV1H683JZ3	0.068 50V
C526	ECQV1H683JZ3	0.068 50V
C527	ECBT1C562KR5	5600P 16V
C528	ECBT1C562KR5	5600P 16V
C529	ECQB1H273JF3	0.027 50V
C530	ECQB1H273JF3	0.027 50V
C531	ECBT1E103ZF5	0.01 25V
C532	ECBT1E103ZF5	0.01 25V
C533	ECEA1CKA100B	10 16V
C534	ECEA1CKA100B	10 16V
C536	ECBT1E103ZF5	0.01 25V

Ref No.	Part No.	Values & Remarks
C551	ECEA1HKA3R3B	3.3 50V
C552	ECEA1HKA3R3B	3.3 50V
C553	ECBT1H101KB5	100P 50V
C554	ECBT1H101KB5	100P 50V
C555	ECBT1H221KB5	220P 50V
C556	ECBT1H221KB5	220P 50V
C557	ECBT1E103ZF5	0.01 25V
C558	ECBT1E103ZF5	0.01 25V
C559	ECEA1CKA100B	10 16V
C560	ECEA1CKA100B	10 16V
C561	ECEA1HU3R3B	3.3 50V
C562	ECEA1HU3R3B	3.3 50V
C563	ECBT1E103ZF5	0.01 25V
C595	ECBT1H221KB5	220P 50V
C601	ECEA1HKN3R3B	3.3 50V
C602	ECEA1HKN3R3B	3.3 50V
C603	ECBT1H681KB5	680P 50V
C604	ECBT1H681KB5	680P 50V
C605	ECEA1JU220B	22 63V
C606	ECEA1JU220B	22 63V
C607	ECCR1H120KC5	12P 50V
C608	ECCR1H120KC5	12P 50V
C609	ECBT1H221KB5	220P 50V
C610	ECBT1H221KB5	220P 50V
C611	ECQV1H473JZ3	0.047 50V
C612	ECQV1H473JZ3	0.047 50V
C613	ECEA1CU470B	47 16V
C615	ECBT1H101KB5	100P 50V
C617	ECKR1H103ZF5	0.01 50V
C618	ECEA2AU100B	10 100V
C631	ECKR1H223ZF5	0.022 50V
C632	ECKR1H223ZF5	0.022 50V
C633	ECBT1H101KB5	100P 50V
C635	ECKR1H223ZF5	0.022 50V
C636	ECKR1H223ZF5	0.022 50V
C637	ECKR1H223ZF5	0.022 50V
C651	ECEA1HKN3R3B	3.3 50V
C652	ECEA1HKN3R3B	3.3 50V
C653	ECBT1H681KB5	680P 50V
C654	ECBT1H681KB5	680P 50V
C655	ECEA1JU220B	22 63V
C656	ECEA1JU220B	22 63V
C657	ECCR1H120KC5	12P 50V
C658	ECCR1H120KC5	12P 50V
C659	ECBT1H221KB5	220P 50V
C660	ECBT1H221KB5	220P 50V
C661	ECQV1H473JZ3	0.047 50V
C662	ECQV1H473JZ3	0.047 50V

Ref No.	Part No.	Values & Remarks
C667	ECKR1H103ZF5	0.01 50V
C668	ECEA2AU100B	10 100V
C681	ECEA1HN100SB	10 50V
C682	ECEA1HN100SB	10 50V
C683	ECBT1C332KR5	3300P 16V
C684	ECBT1C332KR5	3300P 16V
C685	ECBT1E103ZF5	0.01 25V
C701	ECBT1E103ZF5	0.01 25V
C702	ECQE2104KF3	4K 250V
C703	ECOS1HP682BB⚠	6800P 50V[MAV]
C704	ECOS1HP682BB⚠	6800P 50V[MAV]
C705	ECBT1H101KB5	100P 50V
C707	ECA1VM101B	100 10V
C708	ECKR1H103ZF5	0.01 50V
C709	ECEA1CU330B	33 16V
C710	ECBT1E103ZF5	0.01 25V
C711	ECKR1H103ZF5	0.01 50V
C712	ECEA1HKA100B	10 50V
C713	ECKR1H103ZF5	0.01 50V
C714	ECEA1CU470B	47 16V
C716	ECEA1CKA100B	10 16V
C751	ECKWRS102MBC⚠	0.001400VAC[MAV]
C752	ECKR1H103ZF5	0.01 50V
C753	ECA1EM102B	1000 25V⚠
C754	ECBT1E103ZF5	0.01 25V
C755	ECEA1CKA470B	47 16V
C757	ECEA1AKA101B	100 10V
C771	ECEA1HKA2R2B	2.2 50V
C772	ECEA1CKA100B	10 16V
C773	ECBT1E223ZF5	0.022 25V
C774	ECEA0JU221B	220 6.3V
C901	ECEA0JU102B	1000 6.3V
C902	ECBT1E223ZF5	0.022 25V
C903	ECBT1E103ZF5	0.01 25V
C904	ECEA0JU102B	1000 6.3V
C906	ECEA0JKA101B	100 6.3V
C908	ECBT1E103ZF5	0.01 25V
C909	ECEA1HKA220B	22 50V
C910	ECEA1HKA220B	22 50V
C911	ECEA1HKA220B	22 50V
C912	ECEA1HKA220B	22 50V
C913	ECEA1VKA100B	10 10V
C914	ECEA1VKA100B	10 10V
C916	ECEA1HKA010B	1 50V
C917	ECEA1HKAR47B	0.47 50V
C918	ECEA0JKA221B	220 6.3V
C920	ECEA1HKA010B	1 50V
C921	ECBT1H331KB5	330P 50V

Ref No.	Part No.	Values & Remarks
C922	ECBT1H331KB5	330P 50V
C923	ECBT1H331KB5	330P 50V
C924	ECBT1H331KB5	330P 50V
C925	ECBT1H331KB5	330P 50V
C926	ECBT1H331KB5	330P 50V
C927	ECBT1H331KB5	330P 50V
C928	ECBT1H331KB5	330P 50V
C929	ECBT1H331KB5	330P 50V
C930	ECBT1H331KB5	330P 50V
C931	ECBT1H102KB5	1000P 50V
C934	ECBT1H101KB5	100P 50V
C935	ECBT1E103ZF5	0.01 25V
C936	ECBT1H101KB5	100P 50V
C944	ECBT1H101KB5	100P 50V
C947	ECBT1E103ZF5	0.01 25V
C948	ECBT1E103ZF5	0.01 25V
C1001	ECEA1HKA010B	1 50V
C1002	ECEA1HKA010B	1 50V
C1003	ECEA1HU3R3B	3.3 50V
C1004	ECEA1HU3R3B	3.3 50V
C1005	ECEA1HKA010B	1 50V
C1007	ECFR1E223KR	0.022 25V
C1008	ECFR1E473KR	0.047 25V
C1009	ECEA0JU221B	220 6.3V
C1010	ECEA1CKA100B	10 16V
C1011	ECEA1CKA100B	10 16V
C1012	ECEA1CKA100B	10 16V
C1013	ECEA1CKA100B	10 16V
C1014	ECEA0JU221B	220 6.3V
C1015	ECQV1H104JZ3	0.1 50V
C1016	ECQV1H104JZ3	0.1 50V
C1017	ECEA1HKAR47B	0.47 50V
C1018	ECEA1VU4R7B	4.7 10V
C1019	ECEA1HKAR47B	0.47 50V
C1020	ECEA1VU4R7B	4.7 10V
C1021	ECEA1HKAR15B	0.15 50V
C1022	ECEA1HU3R3B	3.3 50V
C1023	ECQV1H154JZ3	0.15 50V
C1024	ECQV1H154JZ3	0.15 50V
C1025	ECEA1HU3R3B	3.3 50V
C1026	ECEA1HKAR15B	0.15 50V
C1027	ECEA1VU4R7B	4.7 10V
C1028	ECEA1HKAR47B	0.47 50V
C1029	ECEA1VU4R7B	4.7 10V
C1030	ECEA1HKAR47B	0.47 50V
C1031	ECQV1H104JZ3	0.1 50V
C1032	ECQV1H104JZ3	0.1 50V
C1033	ECEA0JKA470B	47 6.3V

Ref No.	Part No.	Values & Remarks
C1034	ECQV1H474JZ3	0.47 50V
C1035	ECBT1H681KB5	680P 50V
C1036	ECBT1H101KB5	100P 50V
C1037	ECBT1H101KB5	100P 50V
C1038	ECBT1H101KB5	100P 50V
C1039	ECEA1CU101B	100 16V
C1040	ECEA1CKA100B	10 16V
C1041	ECBT1E103ZF5	0.01 25V
C1051	ECEA1HKA2R2B	2.2 50V
C1052	ECEA1HKA010B	1 50V
C1053	ECEA1HU3R3B	3.3 50V
C1054	ECEA0JU221B	220 6.3V
C1055	ECEA1HKA010B	1 50V
C1056	ECFR1E563KR	0.056 25V
C1057	ECFR1E152KR	1500P 25V
C1058	ECFR1E563KR	0.056 25V
C1059	ECEA1CU101B	100 16V
C1060	ECBT1E223ZF5	0.022 25V
C1062	ECBT1E223ZF5	0.022 25V
C1063	ECEA1CU101B	100 16V
C1065	ECBT1H681KB5	680P 50V
C1067	ECBT1C152KR5	1500P 16V
C1068	ECBT1C152KR5	1500P 16V
C1151	ECEA1HKA010B	1 50V
C1152	ECFR1C683KR	0.068 16V
C1153	ECFR1C273KR	0.027 16V
C1154	ECEA1VU4R7B	4.7 10V
C1155	ECBT1E103ZF5	0.01 25V
C1156	ECBT1E103ZF5	0.01 25V
C1157	ECBT1E103ZF5	0.01 25V
C1158	ECBT1H101KB5	100P 50V
C1159	SECEA1CU101B	100 16V

Ref No.	Part No.	Values & Remarks

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